CAM13xx Series

User Manual

Release 1.2

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Revision History

Version	Description	Date
1.0	Initial release	January 2011
1.1	Built-In MIC added for CAM1320 and UI Modified.	October 2013
1.2	Add new controller icons	December 2013

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Safety Precautions

Electric Shock Warning

This equipment may cause electric shocks if not handled properly.

- Access to this equipment should only be granted to trained operators and maintenance personnel who have been instructed of, and fully understand the possible hazardous conditions and the consequences of accessing non-field-serviceable units such as the power supplies.
- The system must be unplugged before moving, or in the even that it becomes damaged.

Reliable Grounding

Particular attention should be given to prepare reliable grounding for the power supply connection. It is suggested to use a direct connection to the branch circuit. Check for proper grounding before powering on the device.

Overloading Protection

The device should be installed according to specifications. Provide a suitable power source with electrical overload protection. Do not overload the AC supply branch circuit that provides power to the device.

ESD Precautions

Please observe all conventional anti-ESD methods while handling the device. The use of a grounded wrist strap and an anti-static work pad are recommended. Avoid dust and debris in your work area.

Device Site Recommendations

The device should be installed according to specifications. This device should be operated at a site that is:

- Clean, dry, and free of excessive airborne particles.
- Well-ventilated and away from heat sources such as direct sunlight and radiators.
- Clear of vibration or physical shock.
- Away from strong electromagnetic fields produced by other devices.
- Available with properly grounded wall outlet for power. In regions where power sources are unstable, apply surge suppression.
- Available with sufficient space behind the device for cabling.

Chapter 1. Product Overview

1.1. Network Camera Introduction

CAM13xx series are professional network cameras that use Internet Protocol (IP) to transmit video streams and control signals over networks. Capable of operating over both LANs and WANs, they provide a complete budget-conscious remote surveillance solution that are ultra clear and highly integrated. CAM13xx series combine a user-friendly interface and simplified installation with a powerful feature set to provide users an easy upgrade path to new digital surveillance system in a virtual environment. These highlights make CAM13xx series ideal choices for environments that require remote surveillance or video transmission.

1.2. Features and Benefits

13xx series IP camera is a cutting-edge digital video transmission device. It can compress and transmit real-time images of outstanding quality using a reasonable amount of bandwidth through a standard TCP/IP network. The following features make this IP camera an outstanding choice when building an intelligent IP surveillance system:

- High Video Quality

  High image quality is essential in security surveillance applications. It is important to be able to clearly capture an incident in progress and identify persons or objects involved. A network camera gives exceptional video quality, even greater than that of traditional analog cameras, which means that more detail or larger areas can be covered.

- H.264/MPEG-4/MJPEG Compression

  Motion JPEG, MPEG-4, and H.264 (also known as MPEG-4 Part 10/AVC), each employ different techniques to reduce the amount of data transferred and stored in a network video system. Network cameras that support multiple compression standards are ideal for maximum flexibility and integration possibilities.

- Dual Streaming

Dual-stream design enables simultaneous support of real-time video monitoring, video recording, or mobile viewing applications which require different resolutions, compression formats and frame rates.

- Tampering Detection

This is an intelligent video analytics application available only in selected network cameras in the market. When a camera is manipulated in any way (e.g. accidental redirection, blocking, defocusing, spray-painted, covered or damaged), it can automatically trigger recording and alert notifications.

- Power-over-Ethernet

The built-in Power-over-Ethernet support reduces cabling and installation costs, and enables users to consolidate power facilities for higher reliability. With PoE, a camera can still operate in the event of a power failure if it is connected to a centralized backup power with an Uninterruptible Power Supply.

1.3. Technical Specifications

Model List for CAM13xx Series

CAM13xx Series		
CAM1300	CAM1301	CAM1320
2 M H.264 IP Camera	2 M H.264 D/N IP Camera	2M H.264 IP Fixed Dome

Specifications for CAM13xx Series

Model Name	**CAM1300**	**CAM1301**	**CAM1320**
Description	2 M H.264 IP Camera	2 M H.264 D/N IP Camera	2M H.264 IP Fixed Dome
Image Sensor	1/2.7" 2 megapixel progressive scan CMOS		
Lens	4.2 mm, F1.8 (Default)		
SNR	48dB		
WDR	Yes		
Day/Night ICR	N/A	Yes	N/A
IR LED	N/A	Yes (10M)	N/A
Min Illumination	0.03 Lux @ F1.8 (B/W) 0.3 Lux @ F1.8 (Color)	0 Lux (IR LEDs on) 0.3 Lux @ F1.8 (Color)	0.03 Lux @ F1.8 (B/W) 0.3 Lux @ F1.8 (Color)
Iris Control	N/A		
Viewing Angle	N/A		
Camera Angle Adjustment	N/A		
Pan/Tilt/Zoom Functionalities	N/A		
Shutter Time	1/2~1/10,000 s		
Video Compression	H.264/MPEG-4/MJPEG		
Resolution	Up to 1920 x 1080		
Video FPS	15 fps at 1080P (1920 x 1080) 30 fps at SXGA (1280 x 1024) 30 fps at HD720 (1280 x 720) 30 fps at D1 (720 x 480) 30 fps at VGA (640 x 480) 30 fps at QVGA (320 x 240)		

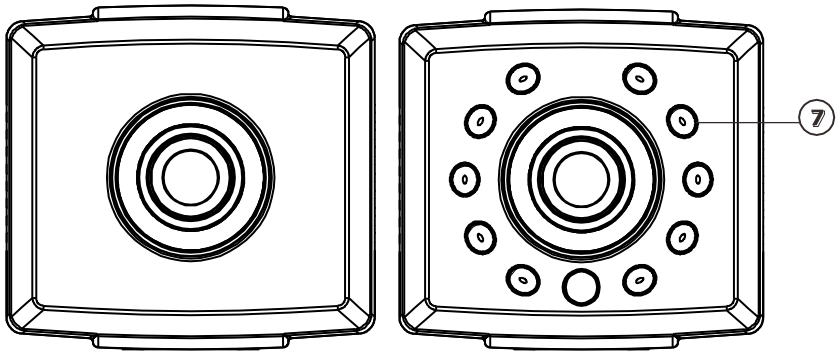
Video Control	AGC (Auto Gain Control), AWB (Auto White Balance), AES (Auto Electronic Shutter), Image Adjustment		
Video Stream	Dual stream at H.264, MPEG-4, and MJPEG simultaneously		
Bit Rate	64K~10Mbps, VBR, CBR, controller frame rate and quality		
Intelligent Video	Motion Detection, (blocked, redirected, defocused, or spray-painted)		
Video Jack	N/A		
Audio Compression	32KHz, ADPCM		
Audio Input/Output	3.5mm phone jack		Built-in MIC
Alarm In/Out	N/A		
Video Buffer	5 second pre-alarm, 5 second post-alarm		
Event Action	Send snapshot or video clip by FTP or email, record to NAS, trigger DO		
Supported Protocols	IPv4, ARP, TCP, UDP, ICMP, DHCP, NTP, DDNS, SMTP, FTP, HTTP, CIFS, PPPoE, UPnP, RTP, RTSP, RTCP, 3GPP		
Ethernet	10/100 Base-T/RJ45		
Local Storage	N/A		
RS-485	N/A		
USB	USB 2.0 x 1		N/A
SDK	SDK 2.0		
OS	Microsoft Windows XP/Vista/7		
Browser	Microsoft IE 6.0 or above		
Software	VMS 2.4.5		
Temperature	Operation: -10~50°C (14~122°F)		
Humidity	5~90%		
Power	12VDC 1.5A；PoE (IEEE 802.3af) with Class 3		
Power Consumption	Max. 5W		
Dimension	64mm x 60mm x 97mm		Φ 100mm x 43mm(H)
Weight	Net: 270g (0.85 lb) Gross: 525g (2.29 lb)	Net: 275g (0.88 lb) Gross: 530g (2.32 lb)	Net: 190g (0.42 lb) Gross: 305g (0.67 lb)
Certification	Safety: LVD EMC: FCC, CE, KC		

Chapter 2. Hardware Overview

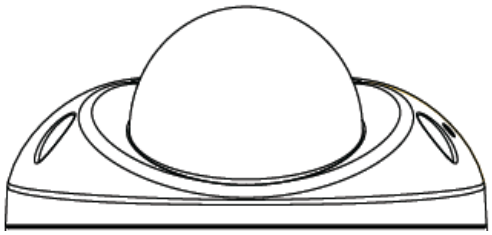
2.1. Overview

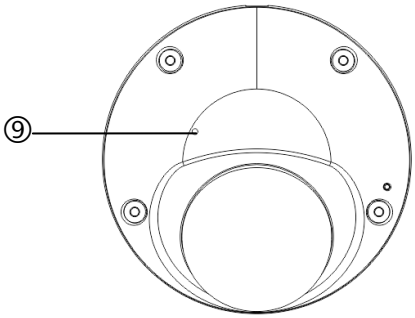
Front View for1300/1301

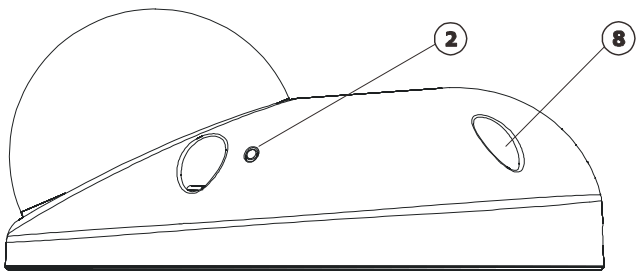
CAM1300 CAM1301



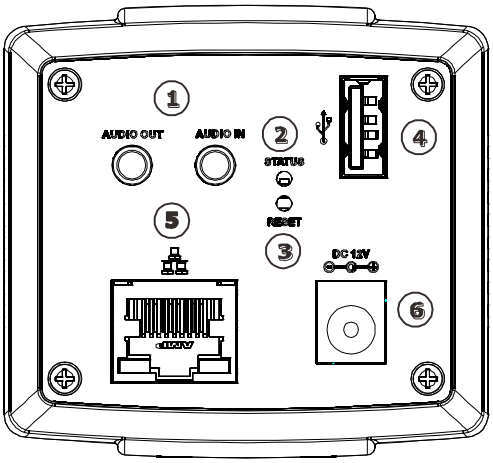
Side View for CAM1320



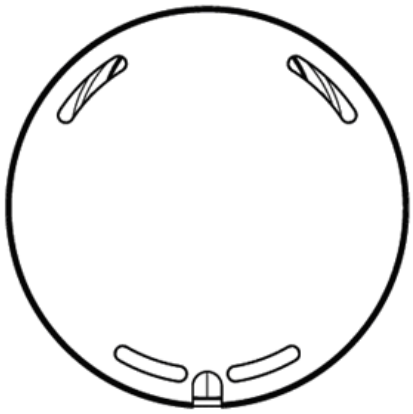


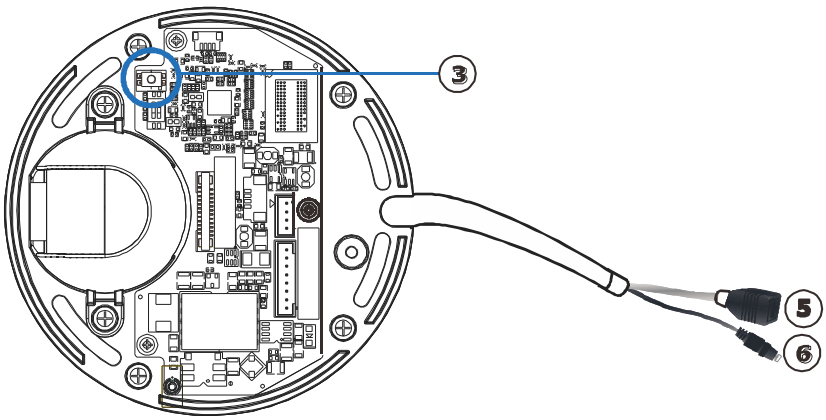


Rear View for CAM1300/1301



Bottom View for CAM1320



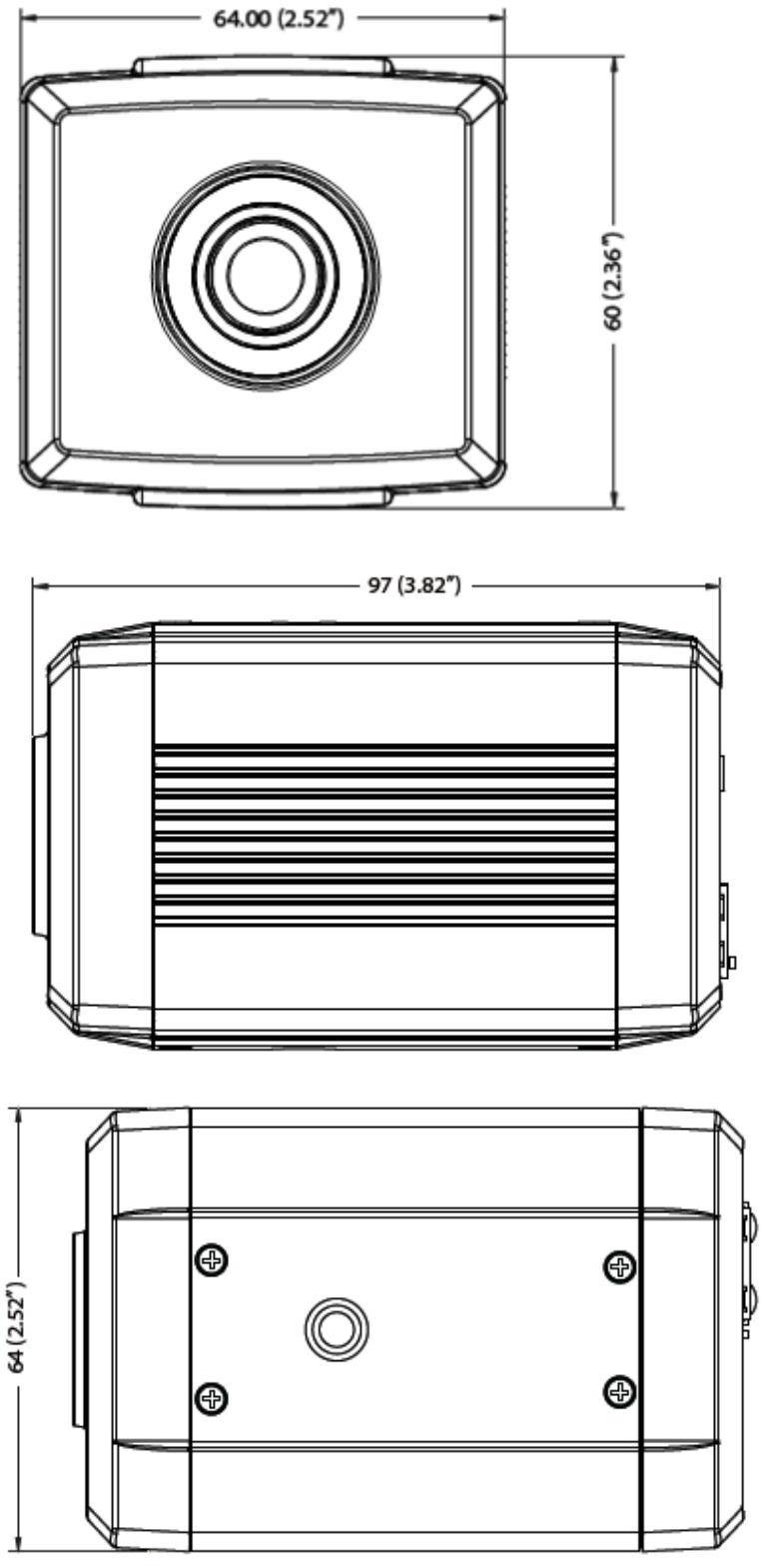


1. Audio In/Out	2. Status LED Indicator	3. Reset Button	4. USB Connector
5. Network Connector	6. Power Connector	7. IR LED	8. Screw Hole
9. Microphone			

2.2. Dimensions

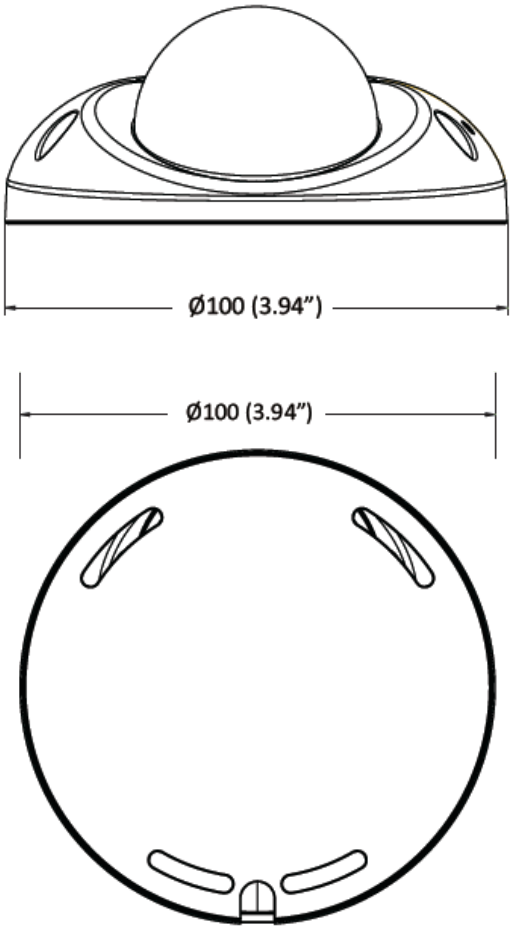
CAM1300/1301

Unit: mm (inches)

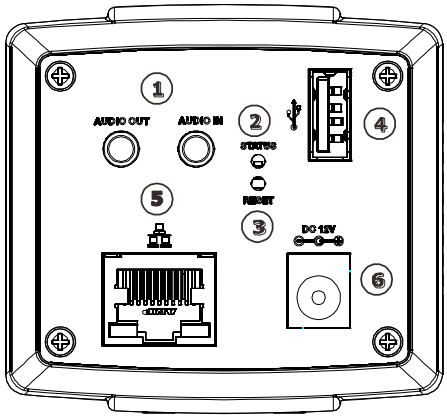


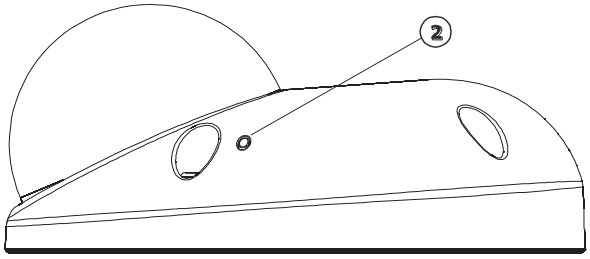
CAM1320

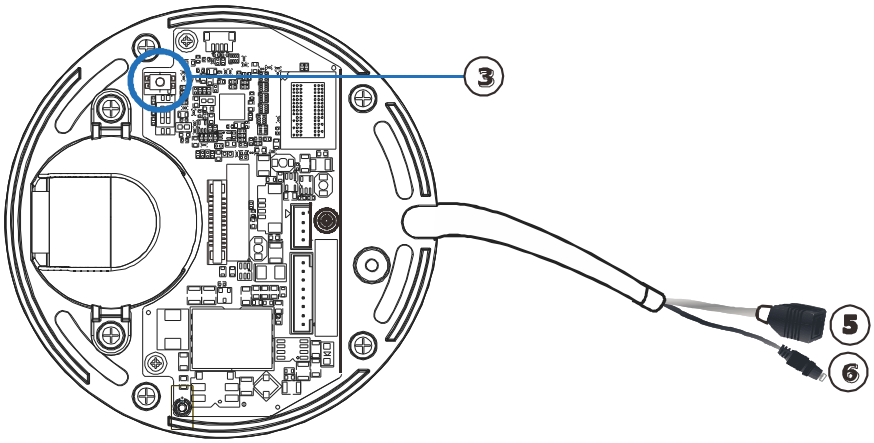
Unit: mm (inches)



2.3. Functions







1. Audio In/Out

   Audio In/Out are both for 3.5mm jacks. Audio In provides for an external mono microphone. Audio Out can be connected to a public address system or an active speaker with a built-in amplifier. A pair of headphones can also be attached.

Note: CAM1320 does not support Audio In/Out functions.

2. Status LED indicator

   The LED will light up after the camera has successfully completed the boot process. The Status LED indicator in the rear of the camera can be set to light whenever the unit is accessed, or be shut off.

Status LED (rear)	Green	Shows steady green for normal operation, flashing when the camera is accessed. Note: The Status LED can be configured to be unlit.
	Amber	Steady during startup, reset to factory default or when restoring settings.
		Flashes every 0.2 sec during firmware upgrade. (On:0.2 sec, Off: 0.2 sec) Note: Startup or reboot may have failed if the status LED shows steady amber for over 1 minute.
	Unlit	No network connection.

3. Reset Button

Pressing the reset button will restore the camera to its factory default settings, as described in *Resetting to the Factory Default Settings*.

Note: Camera resets can also be performed under **System > Reset To Factory Default** on the web interface.

4. USB Connector

The USB Connector can be connected to a wireless USB adapter to access wireless LAN.

Note: (1)Only EDIMAX's wireless adapters - EW-7711UAn, EW-7711USn and EW-7711UMn are supported. The recommended wireless APs are EdiMax BR-6424n/BR-6324nL/BR-6225n. (2) CAM1320 does not have USB connector.

5. Network Connector

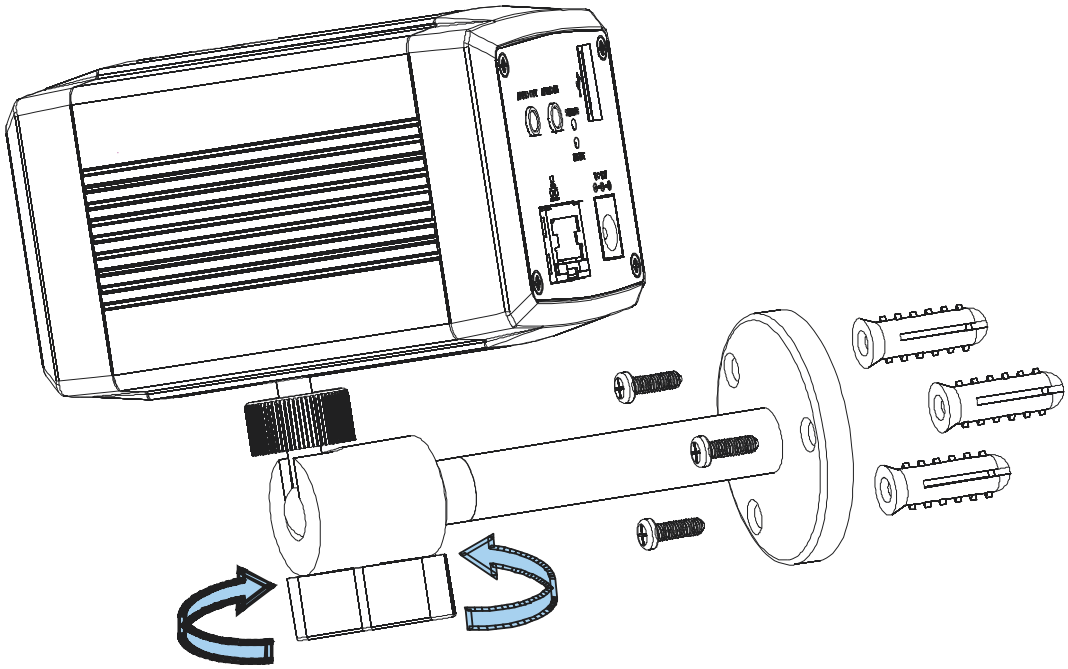
The camera connects to the network via a standard RJ-45 network connector. The camera detects the speed of the local network (10/100BaseT). The camera also supports PoE (Power-over-Ethernet), and can be powered directly through the network cable.

6. Power Connector

The power connector is provided for solutions without PoE.

2.4. Hardware Installation

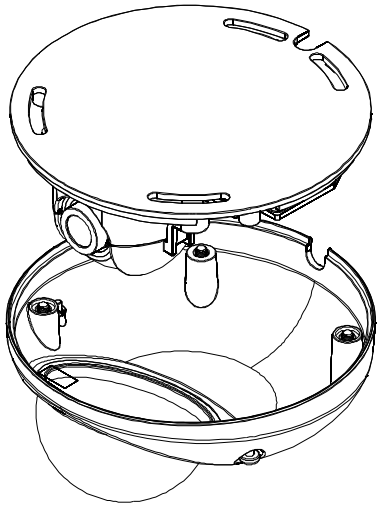
Installation for CAM1300/1301



1. Align the camera stand with the anchor blots and fasten screws to secure the stand on the ceiling.
2. Loosen the lock ring to adjust the desired angle of the camera.
3. Retighten the lock ring after the desired angle is achieved.
4. Connect the power cord to the power port.
5. Insert the LAN cable to the LAN port.
6. The LED indicator will blink amber to indicate the boot-up sequence has started. Wait until the LED is in a steady green state, indicating the camera boot-up is complete.

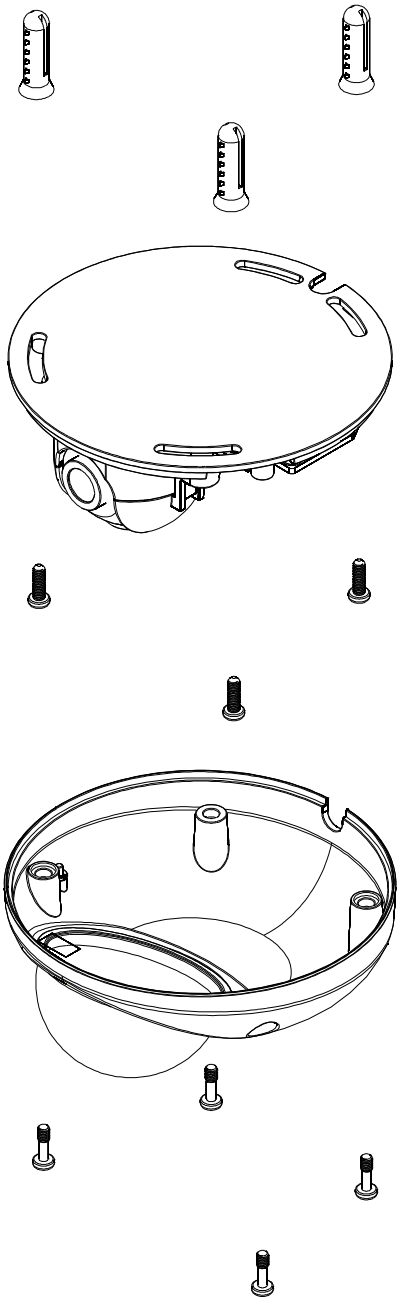
Installation for CAM1320

1. Remove the base plate from the bottom of the camera assembly.

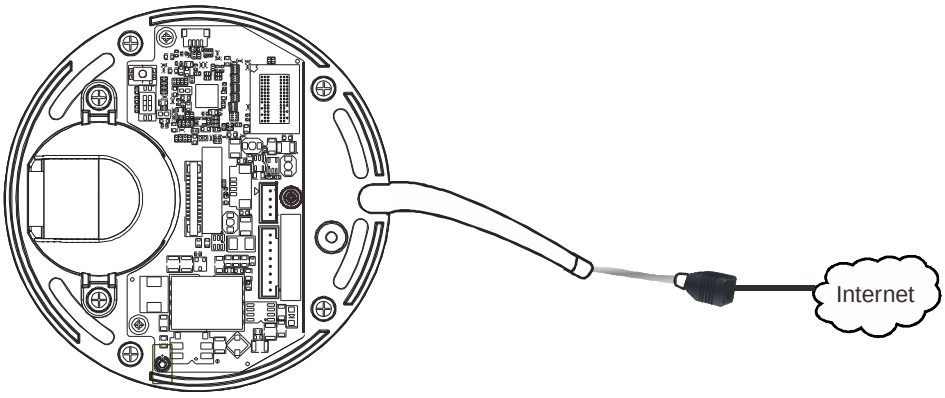


2. Use the anchor blots to mark the desired camera position on the ceiling. Then use the anchor blots as a guide, and cut a hole for wiring purposes if necessary.

Align the base plate with the anchor blots and fasten screws to secure the plate on the ceiling. Thread the multiple connector interface cable through the hole in the base plate.

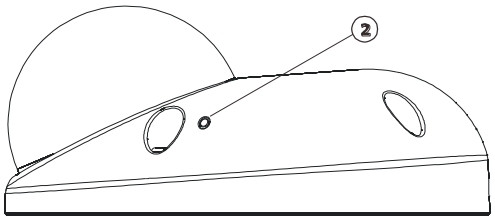


3. Connect the camera to network with the network connector.

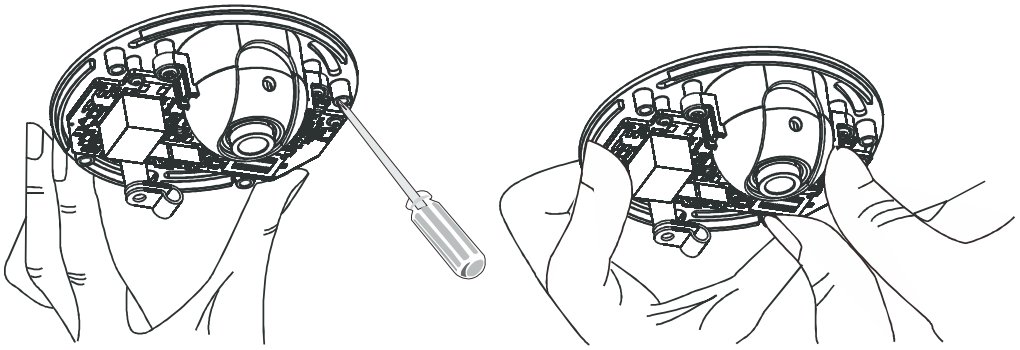


4. Connect the power connector to a power outlet.

5. The LED indicator will blink amber to indicate the boot-up sequence has started. Wait until the LED is in a steady green state, indicating the camera boot-up is complete.

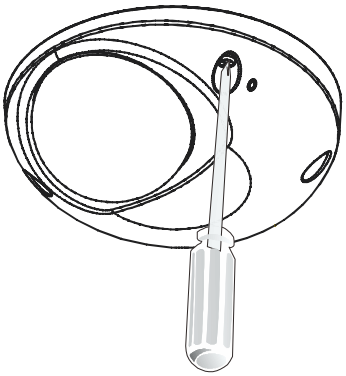


6. Loosen the screws on the front holder and adjust the direction of the lens.



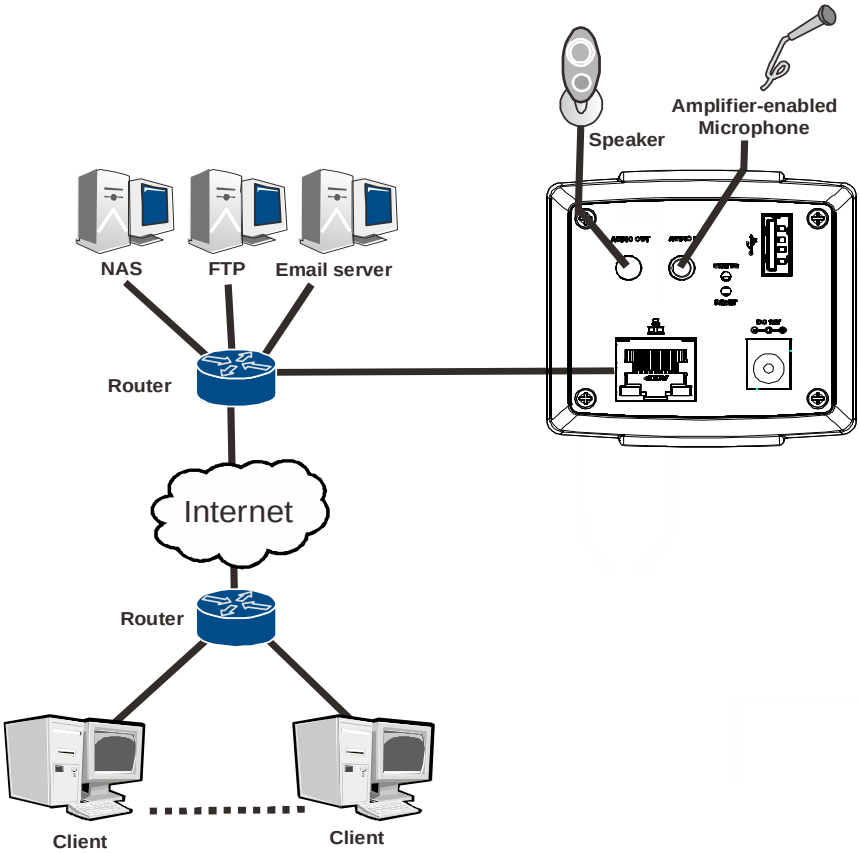
7. Lock the front holder.

8. Lock the white lid with the screws.

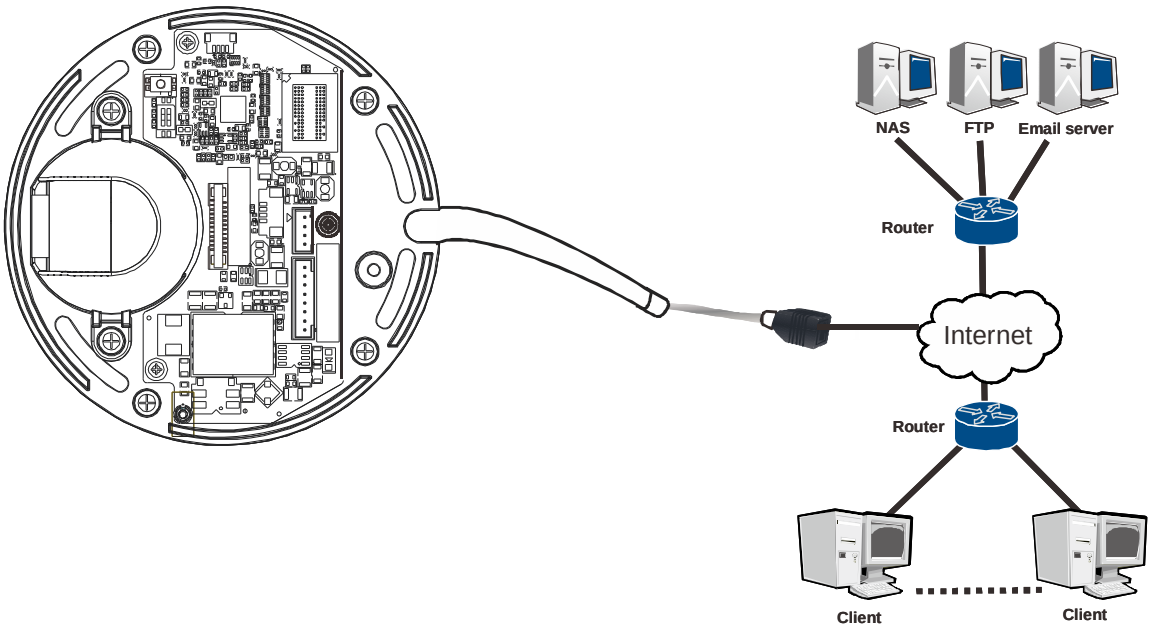


2.5. Camera Deployment

CAM1300/1301



CAM1320



2.6. Before You Start

Please prepare a PC with Windows (XP or above) and web browsers installed.

Chapter 3. Connecting to the Network Camera

This section demonstrates how to connect to the network camera through two methods:

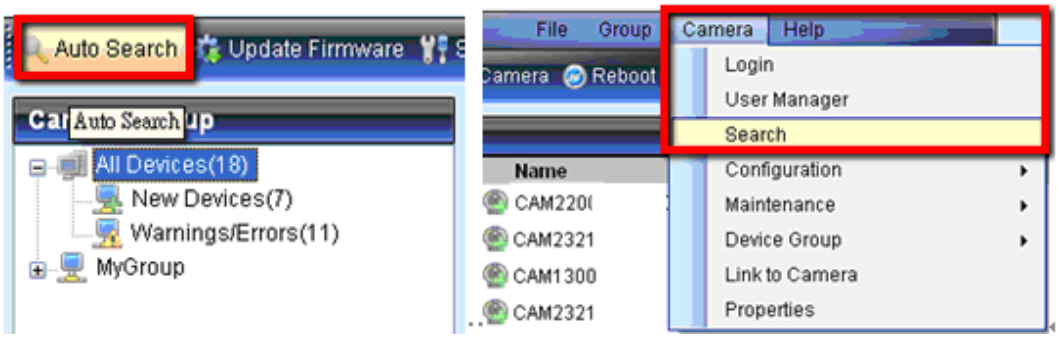
- Web Browser – A simple web-based interface. Internet Explorer is the recommended web browser for use with network cameras, and our examples will be from this browser. Usage on other browsers will be similar.
- RTSP Player – These include common streaming media players, such as *RealPlayer* or *Quicktime Player*. These players can provide live view of the camera using the Real-Time Streaming Protocol (RTSP).

3.1. Connecting with a Web Browser

Obtaining IP address through the IP Utility

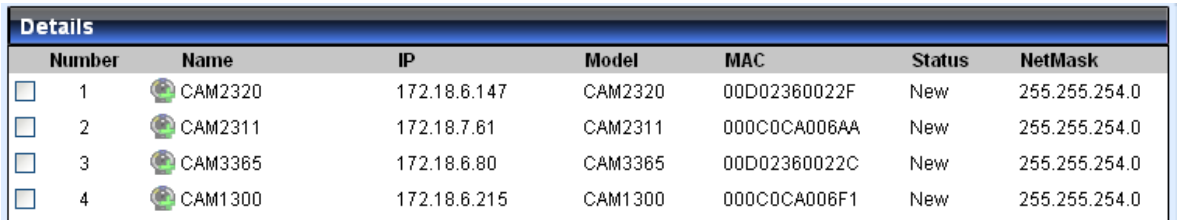
The IP address can be obtained using the IP Utility in your product CD:

1. Double click Start SearchToolInstall.exe to begin the utility installation.
2. After the installation is complete, click the **Auto Search** button or click **Camera > Search** in the menus.



The camera search will begin, and a status bar will display the search progress.

3. The details of the camera will display after the search is finished.



Details

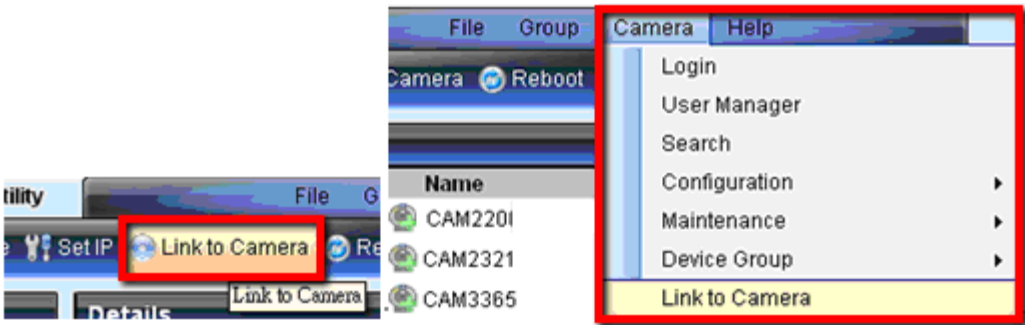
Number	Name	IP	Model	MAC	Status	NetMask
1	CAM2320	172.18.6.147	CAM2320	00D02360022F	New	255.255.254.0
2	CAM2311	172.18.7.61	CAM2311	000C0CA006AA	New	255.255.254.0
3	CAM3365	172.18.6.80	CAM3365	00D02360022C	New	255.255.254.0
4	CAM1300	172.18.6.215	CAM1300	000C0CA006F1	New	255.255.254.0

Note: (1) The search may take up to 2 minutes, depending on your network configuration. (2) If your network does not have DHCP service, the default IP address is 192.168.88.10.

Connecting to the Network Camera

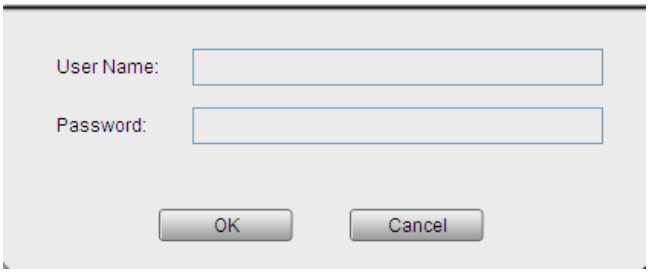
Launch the web browser (Microsoft ® Internet Explorer 6.0 or higher is recommended). Enter the IP address of the network camera in the address bar of your browser and press enter.

You can also Click the **Link to Camera** button or click to **Camera> Link to Camera** in the IP Utility menu bar. The camera's live view webpage will open in a browser window.



Logging into the System

The following information will prompt for logging in:



- **Username** – The username for the domain. **Default is always *admin*.**
- **Password** – The password for the domain. **Default is always *admin*.**

Click **OK.**

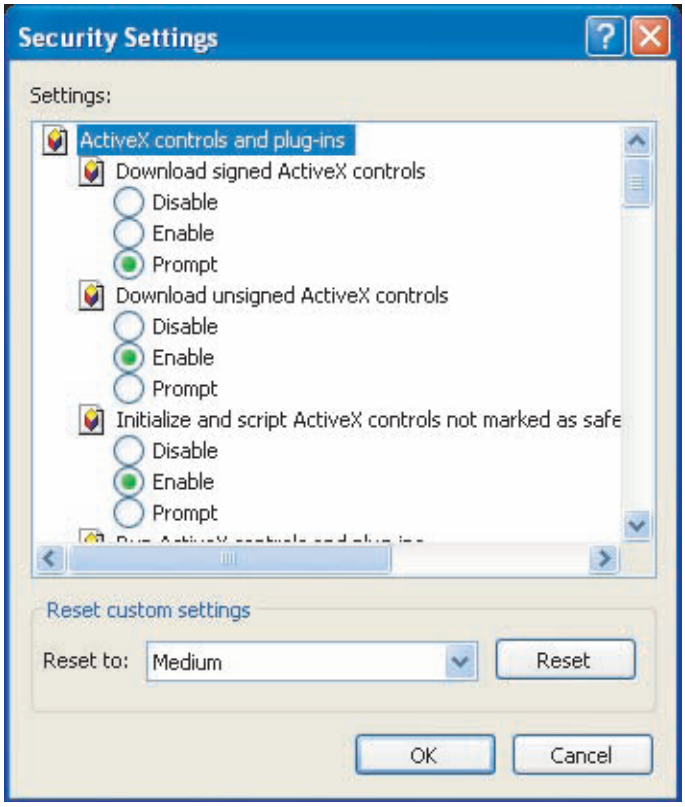
Installing ActiveX Components in Internet Explorer

You may be prompted to install ActiveX® components when accessing the network camera's Live View page; click **Yes** when prompted. You will be able to access the camera after installation is completed. Under Windows, this action may require administrator privileges.

If the dialog box suggests that you are not allowed to install ActiveX components, try resolving the problem using the following steps:

1. In Internet Explorer, open Tools> Internet Options> Security. Click the Custom level button.

2. Search for *Download signed ActiveX controls*. Under this heading select **Prompt** and then click **OK**.



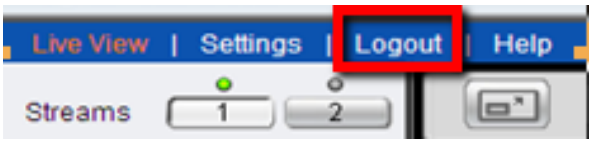
3. Continue installing the Active X components.

4. After installing ActiveX, go to **Tools> Internet Options> Trusted Websites> Sites** and add the IP Address of the camera.

Logging Out of the System

Logging off of the camera can be performed by closing the browser window.

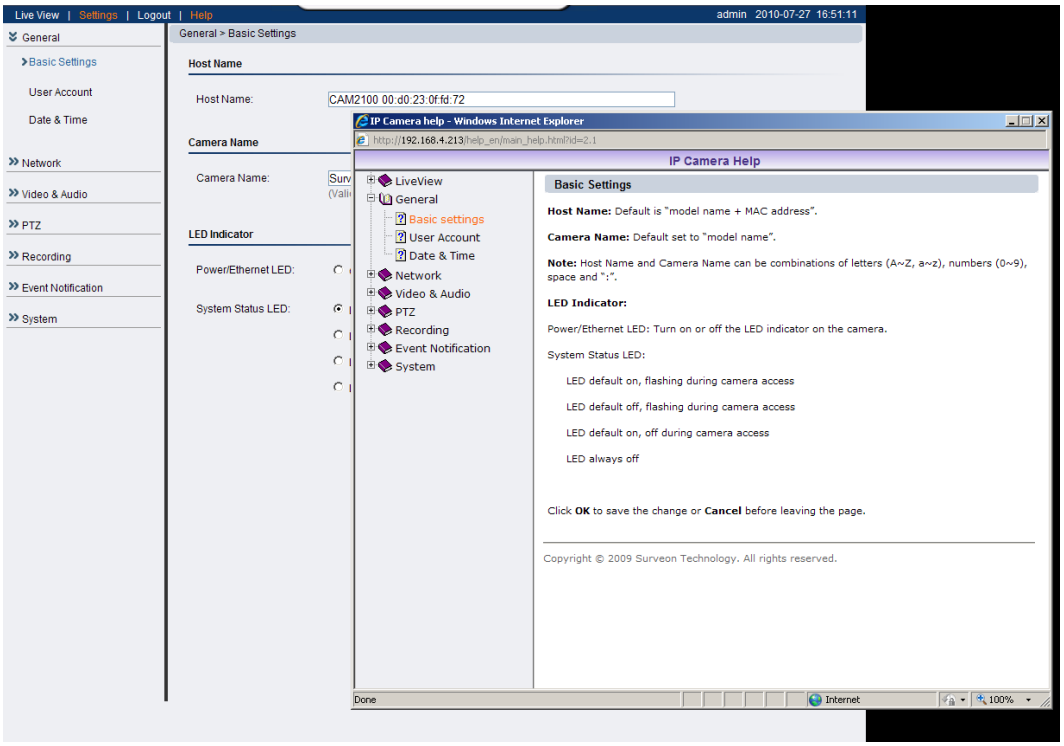
Users can also choose to click the **Logout** link located at the top of the screen.



Using the Help Interface

While using the web interface, you may click on the **Help** link located under the title bar. This will bring up a pop-up containing the IP Camera Help manual. This provides simple explanation of the camera settings, and will automatically open to the page relevant to your current screen.

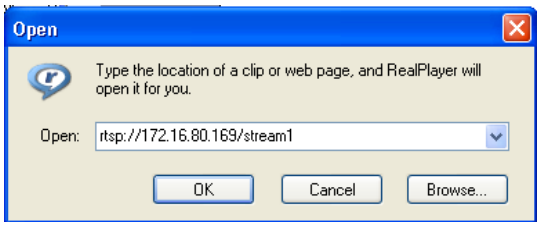
The help manual is organized so that it matches the system menus, with sections corresponding to each settings menu and the Live-view window.



3.2. Connecting with an RTSP Player

Connections through RTSP Media Players such as *Real Player* and *QuickTime Player* are supported. We will use Real Player as an example in this section.

1. Launch Real Player.
2. Select **File > Open URL**, to open a URL dialog box.
3. Enter the camera URL in the address bar.



Note: The format for RTSP is: rtsp://<IP Address>/<Access>, where <Access> can be found at **Settings> Network> Port Settings> RTSP Setting**. By default the <Access> value should be stream1 and stream2.

4. Click **OK,** the stream should begin playing.

Chapter 4. Configuration through the Web Interface

Camera configurations can be done through web interface and IP Utility.

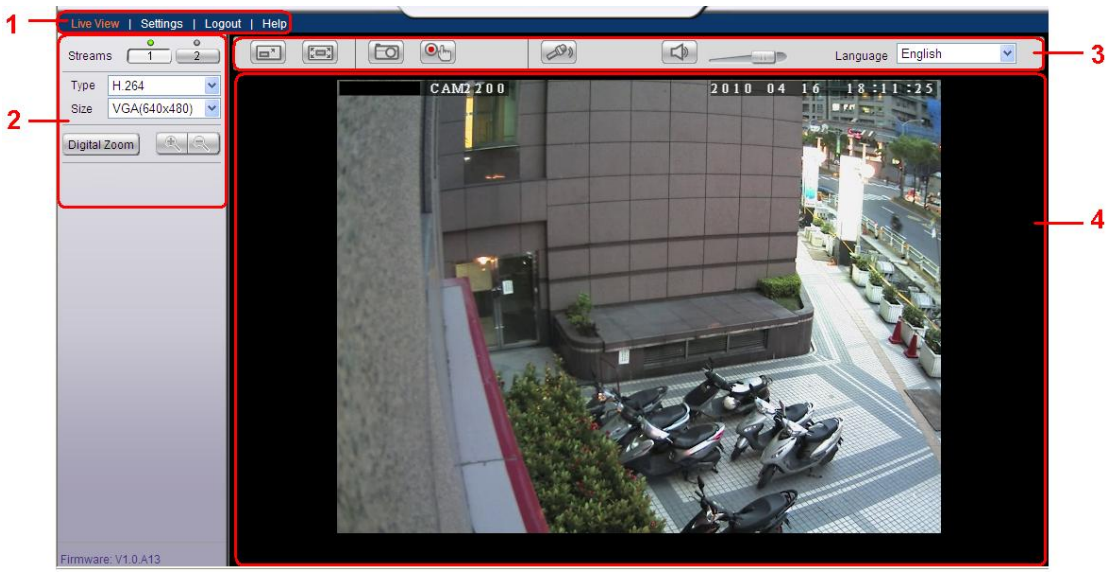
**For web interface, please look into this chapter; for IP Utility, please refer to Chapter 5.

		Web Interface	IP Utility
General	Basic Settings	V	X
	User Account	V	X
	Date & Time	V	X
Network	Network Configuration	V	Set IP Only
	Port Settings	V	X
	UpnP	V	X
	Wifi Setting (CAM1300/1311 Only)	V	X
Video & Audio Settings	Basic Settings	V	X
	Image Appearance Settings	V	X
	Video Streams	V	X
	Audio Settings	V	X
PTZ	RS-485 Settings/PTZ Settings	V	X
Recording	Recording Basic Settings	V	X
	Recorded File Management	V	X
Event Notification	Event Server	V	X
	Motion Detection	V	X
	Tampering Detection	V	X
	DI & DO	V	X
	Event Settings	V	X
System	MicroSD Card Management	V	X
	System Status	V	V
	System Log	V	X
	Firmware Upgrade	V	V
	Resetting to Factory Default Settings	V	X

	Export/Import	V	X
	Reboot	V	V
Camera Search		X	V
Login		V	V
Properties		X	V
Delete from Tool		X	V
Clearing and Setting Status		X	V
Camera Group Actions		X	V
Configuration Settings		X	V
Focus Tool		X	V

4.1. Interface Layout

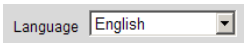
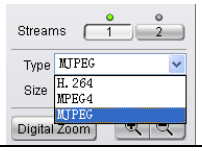
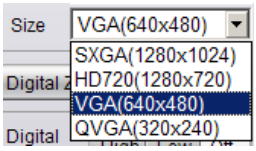
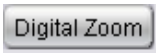
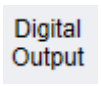
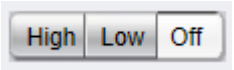
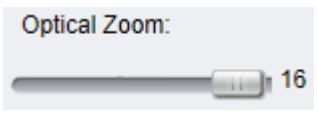
This section demonstrates the layout of the network camera's main interface. The 4 main areas on the interface are:

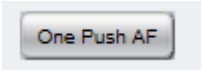
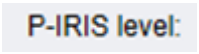
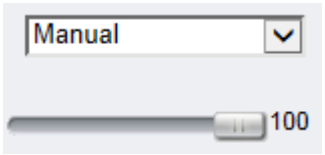
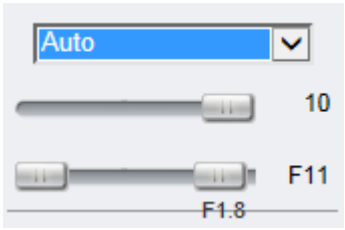


1. **Menu Bar** - The links on this bar allow users to toggle between live-view and settings screens, as well as logout and pull up the help menu.
2. **Live View Controls** - These controls allow users to configure the live view streams and camera live view functionality.
3. **Button Bar** - These controls allow the user to quickly access common features such as live view window resizing, video and still frame capture, interface language, and audio controls.
4. **Live View Window** - This portion of the screen displays the stream selected in the **Live View Control** section of the web interface.

Control Descriptions

Control	Description
	Adjust Window Size: When clicked, the display window size can be adjusted manually to fit the screen. The screen size changes back to the actual image size (resolution).
	Full-Screen: Goes to full-screen when clicked; press "ESC" to return to windowed view.
	Image Capture: When clicked, captures the current screen as an image in a new pop-up window. The location for saving the image can be changed under Settings > Recording> Recording Basic Settings. The file name is set to "Camera Name"+yyyymmdd_hhmmss (the Camera Name can be changed under Settings > General> Basic Settings).
	Manual Record: When clicked, records the current live video. Stops recording when clicked again. The location for storing the video can be changed under Settings > Recording > Recording Basic Settings.
	Audio-In: Turned off by default; clicking once allows audio to be transmitted from a local microphone to the camera. Clicking again stops audio transmission. Multiple users may access the live view page and receive audio from the camera, but only one user at once is allowed to send audio to the camera.
	Mute: Mutes the audio captured by the camera when clicked, un-mutes the audio when clicked again.
	Volume: Sets to the current computer volume; Dragging the slider adjusts the volume.

Control	Description
	**Language:** Sets the UI language. Available languages include English, Simplified Chinese, and Traditional Chinese.
	Streams: Allows users to choose which camera stream to view. The indicator above the stream will turn light green when the stream is selected.
	**Video Format:** Sets the compression format for the current stream. Available formats are H.264, MPEG4, and MJPEG.
	**Image size (resolution):** Sets the resolution of the stream currently selected. Options are available for each stream: 1080P (1920 x 1080), SXGA (1280 x 1024), 720P (1280 x 720), D1 (720x480), VGA (640x480) and QVGA (320x240) for steam1; 640x360, 320x 180 and 192x108 for stream2.
	**Digital Zoom:** When clicked, activates digital zoom in the current live-view stream. 2 options are available when clicked: **Zoom In** **Zoom Out**
	**To set the digital output as high voltage or ground or off can be done here.** 
	**To magnify the image, change its focal length to vary its view from 0 to 16.**
	Change the depth of field by adjusting the Near and Far steps.

Control	Description
	**AutoFocus can be achieved by pressing this button.**
	**P-IRIS level can be adjusted Manually or Automatically.**  

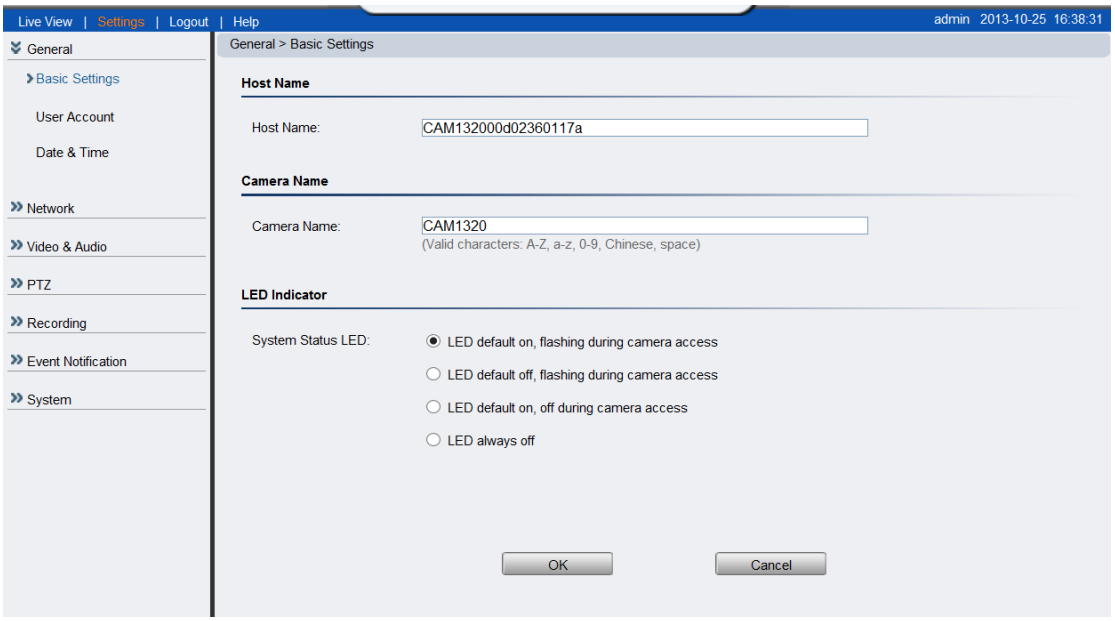
4.2. Settings

Camera settings may be changed by clicking on the **Settings** link located in the title bar. This will bring up a menu list of configuration menus for all major camera settings.

General

General setting menus are found under **Settings** > **General**.

Basic Settings



Basic settings may be accessed under **General> Basic Settings**. The following settings can be made:

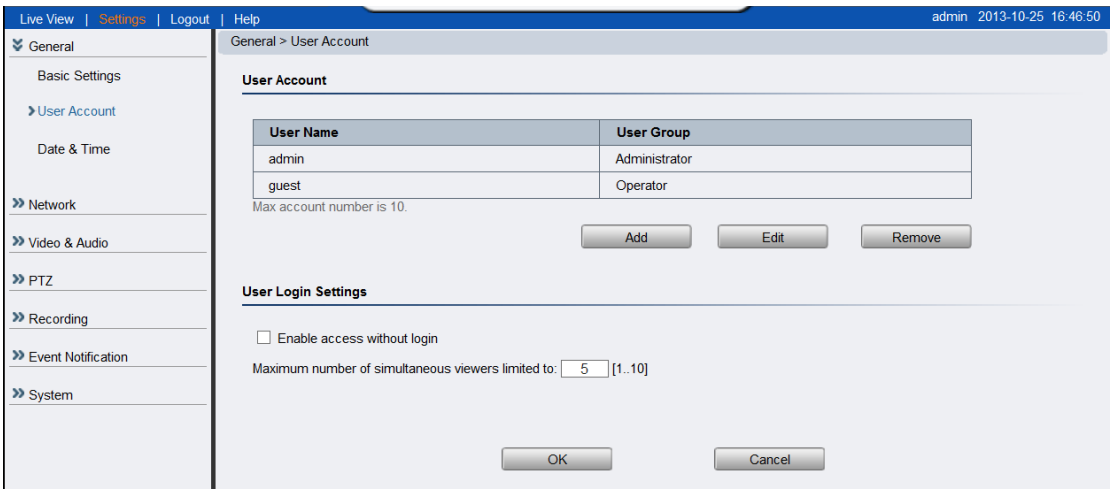
- **Host Name:** by default set to "model name + MAC address"; displays on the center of the main page. Users may replace the default name with a new name consisting of alphanumeric characters, spaces and the ":" character.
- **Camera Name**: by default set to "model name"; after selecting Camera Name" from **Settings> Video & Audio> Basic Settings**, the Camera Name will show on the display. Users may replace the default name with a new name consisting of alphanumeric characters, spaces and the ":" character.
- **System Status LED:** changes the behavior of the status LED on the front of the camera. There are four possible behaviors:

- **LED on when camera is on** - LED default on, flashing during camera access.
- **LED on during camera access** - LED default off, flashing during camera access
- **LED off during camera access** - LED default on, off during camera access
- **LED always off** - LED always off

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

User Account

The User Account section, found under **General> User Account,** controls the user account information and privileges.



There are two pre-configured accounts:

- **admin** - This is the default administration account, and cannot be deleted.
- **guest** - This is an account with only live view capability.

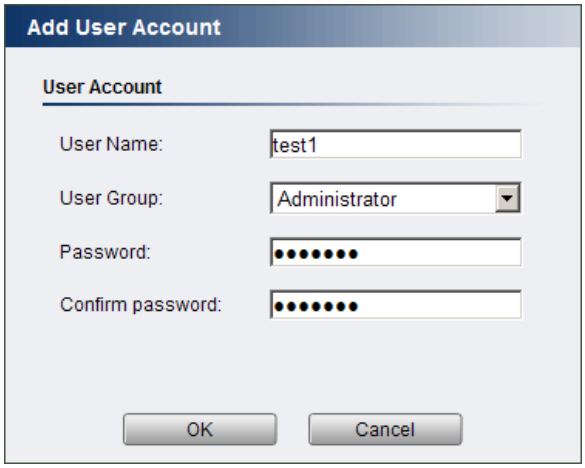
There are also two basic settings under user account settings:

- **Enable access without login** - Checking the checkbox will allow users to view the camera stream without having to login.
- **Maximum number of simultaneous viewers limited to** - Enter a number from 1 to 10 in this field to limit the number of users that can view the live view stream for this camera. This option will only be displayed once you add an account.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

Adding Accounts

In **General > User Account** under the **User Account** heading, click on “Add”. Up to 10 accounts can be added to the system.

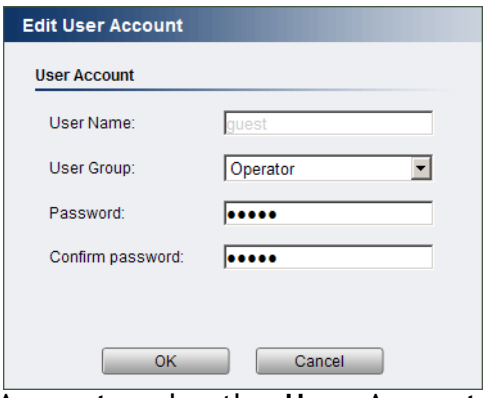


All User Names and Passwords must be combinations of alphanumeric characters, “:”, “-“, “_” between 4 and 20 characters in length, and must begin with an alphabet letter. Fill out the following fields:

- **User Name** - The identifier name used to login to the system.
- **User Group** - The system allows for 2 types of users.
    - **Administrator** - Administrators have full access privileges.
    - **Operator** - Operators can only access the live view page.
- **Password** - A passkey used to control user access. The password must be a combination of alphanumeric characters, “:”, “-“, “_” between 4 and 20 characters in length, and must begin with an alphabet letter. This password should be retyped in the **Confirm password** field, to ensure that the correct key is saved.

Click **OK** when finished to add the user to the system.

Editing Accounts



In **General> User Account** under the **User Account** heading, select an existing account by clicking on the account entry. The entry will be highlighted in yellow. Clicking **Edit** will allow you to change the following fields:

- **User Group** - The system allows for 2 types of users.
    - **Administrator** - Administrators have full access privileges.
    - **Operator** - Operators can only access the live view page.
- **Password** - A passkey used to control user access. The password must be a combination of alphanumeric characters, ":", "-", "_" between 4 and 20 characters in length, and must begin with an alphabet letter. This password should be retyped in the **Confirm password** field, to ensure that the correct key is saved.

Click **OK** when finished to save any changes.

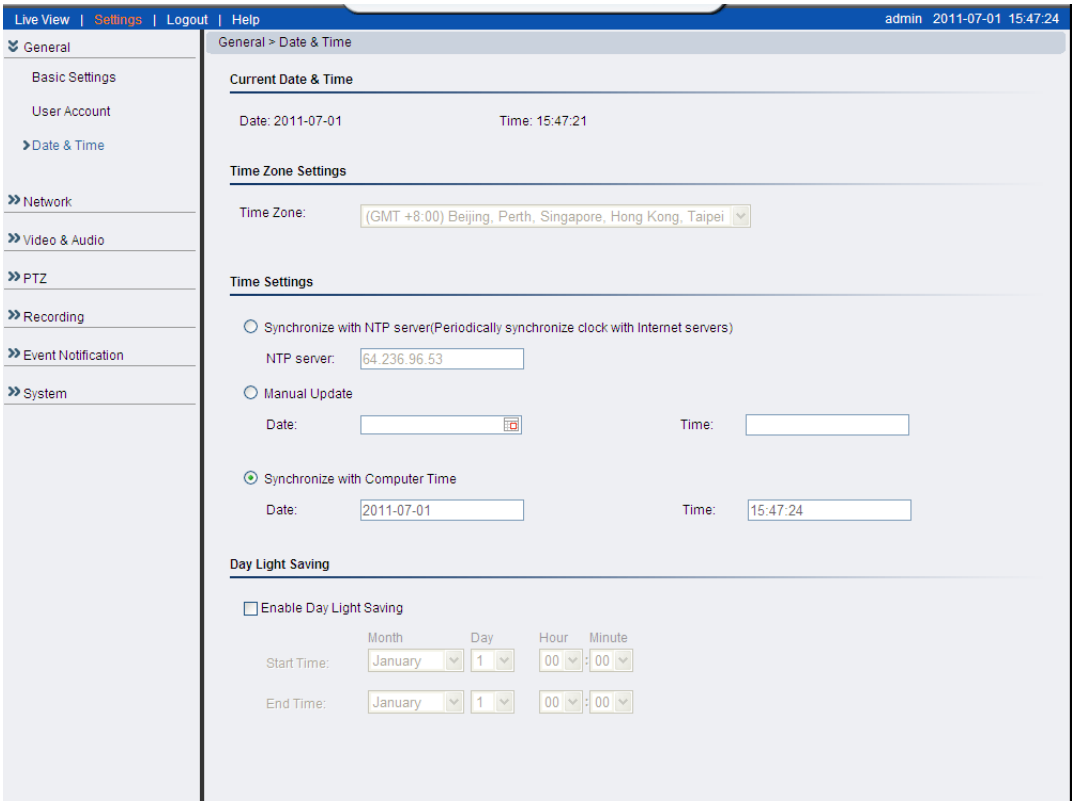
Note: Only accounts that are not currently logged-in can be edited.

Deleting Accounts

In **General > User Account** under the **User Account** heading, select an existing account by clicking on the account entry. The entry will be highlighted in yellow. Click **Remove** and, when prompted to confirm deletion, click **OK** to remove the account.

Date & Time

Date and time settings can be accessed at **General> Date & Time.**



Current Date & Time displays the current system date and time.

Time Zone Settings

The time zone can be set using the dropdown menu. This menu is only applicable when selectable when **Synchronize with NTP Server** is chosen under **Time Settings**.

Time Settings

There are 3 ways to set the system time:

- **Synchronize with NTP server** - NTP is a protocol for synchronizing the system clock to an external server. If this option is chosen, enter the IP address of a known NTP server in the **NTP Server** field. You must also choose the appropriate time zone under **Time Zone Settings**.
- **Manual update** - Updates the time manually. Choose the appropriate date and enter a time for the system.
- **Synchronize with computer time** - Synchronizes the time with the computer's internal clock.

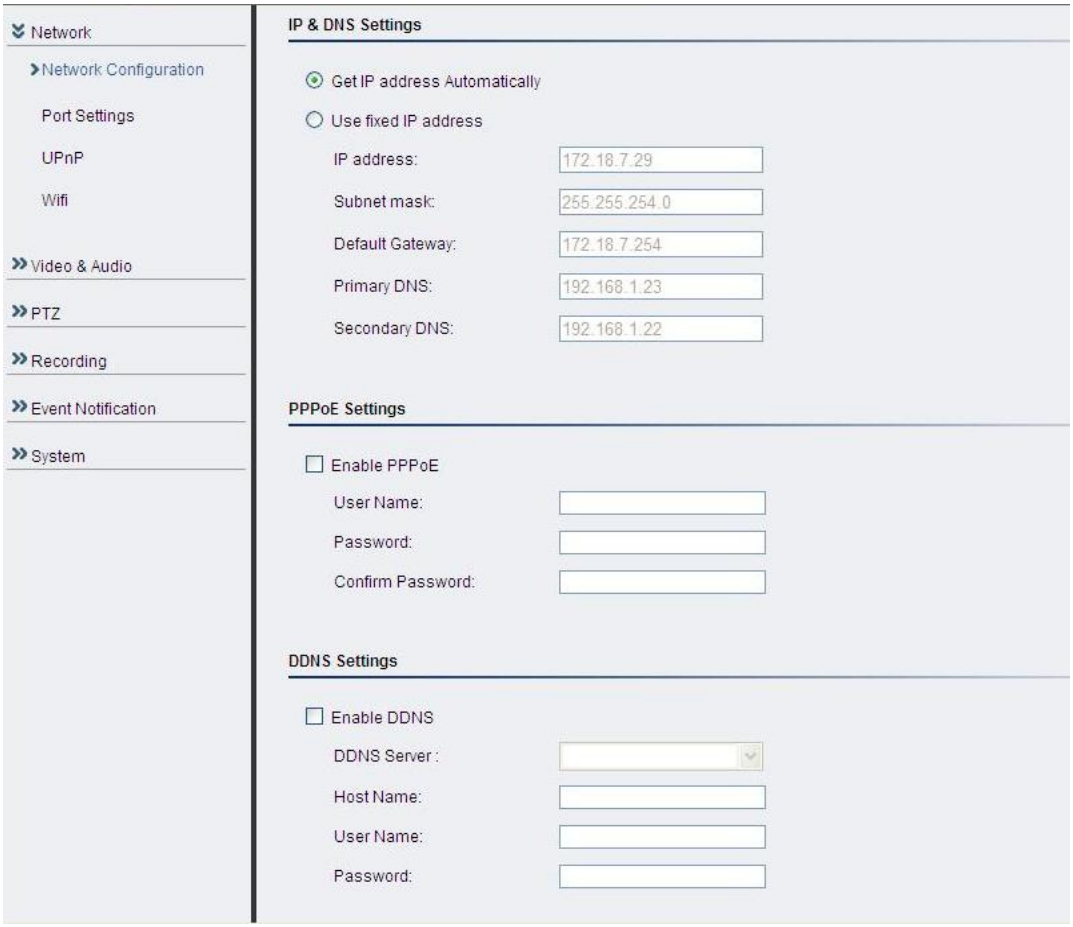
Day Light Saving

Users can set the Day Light Saving Time by ticking on **Enable Day Light Saving**.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

Network

The network settings, including network configuration, port configuration, and universal plug and play (UPnP) settings are used to configure camera connectivity. These settings are found under the **Settings > Network** context.



Network Configuration

These settings are used to configure basic network access for the camera. They are found under **Network> Network Configuration**.

Most of these settings vary with your specific hardware setup; therefore the defaults are set for common SOHO level usage. If you are using the camera in an enterprise environment, please check with your IT department to determine the correct settings for this section.

IP & DNS Settings

These settings are used determine the IP address of the network camera.

- **Get IP address automatically** - Automatically acquires IP address from a DHCP service. This is the default setting.

- **Use fixed IP address** – Sets a fixed IP address. You must also manually fill in IP address, Subnet mask, Default gateway, Primary DNS, and Secondary DNS fields. The network camera can be connected to the network upon completion.

PPPoE Settings

This feature is disabled by default. Connecting to the network using PPPoE (Point-to-Point Protocol over Ethernet) requires a user name and password from your ISP (Internet Service Provider). Select **Enable PPPoE** and fill in valid user name and password to connect the camera to the Internet.

DDNS Settings

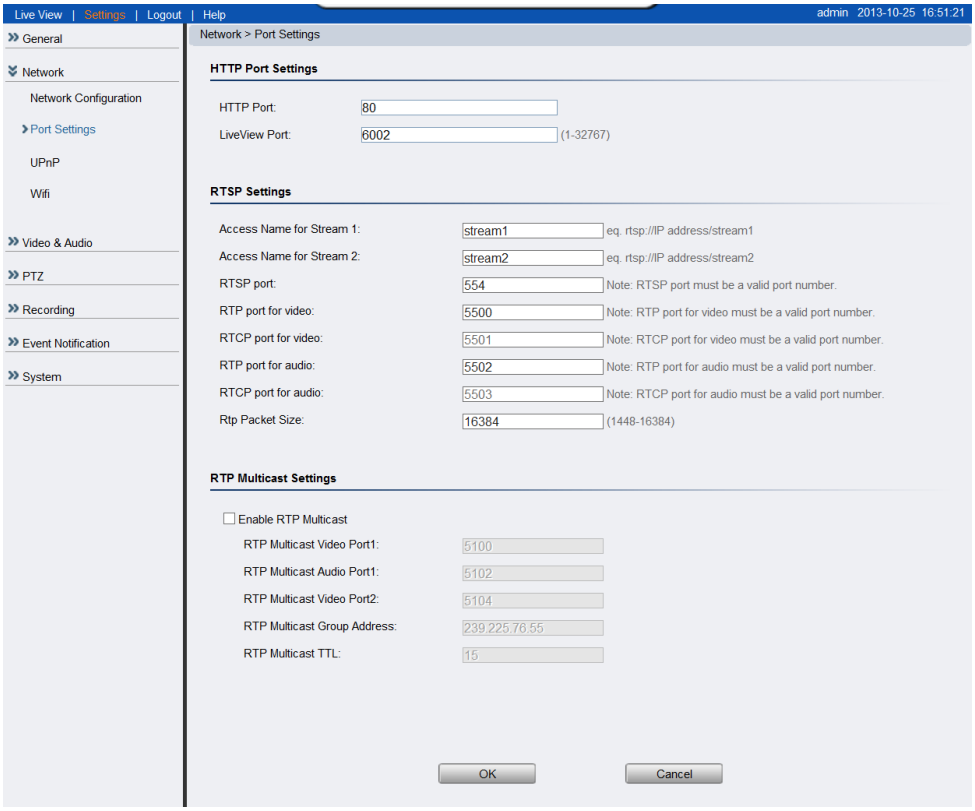
DDNS (Dynamic Domain Name Server) is a protocol that enables the camera to maintain a static connection address, even when its IP changes. Access using this feature is disabled by default.

Connecting using DDNS requires registration on third-party websites for DDNS services. Select desired DDNS service website, check the **Enable DDNS** option, and fill in valid user name and password. You can then access the camera through the registered domain name.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

Port Settings

Ports are a software construct used to multiplex the transmission information to and from the camera. They act as separate endpoints within an IP address where software "listens" for incoming information. This section, which can be accessed under **Network > Port Settings,** includes *HTTP Port Settings*, *RTSP Settings* and *RTP Multicast Settings*.


Live View | Settings | Logout | Help
admin 2013-10-25 16:51:21
General
Network
Network Configuration
Port Settings
UPnP
Wifi
Video & Audio
PTZ
Recording
Event Notification
System
Network > Port Settings
HTTP Port Settings
HTTP Port: 80
LiveView Port: 6002 (1-32767)
RTSP Settings
Access Name for Stream 1: stream1 eg. rtsp://IP address/stream1
Access Name for Stream 2: stream2 eg. rtsp://IP address/stream2
RTSP port: 554 Note: RTSP port must be a valid port number.
RTP port for video: 5500 Note: RTP port for video must be a valid port number.
RTCP port for video: 5501 Note: RTCP port for video must be a valid port number.
RTP port for audio: 5502 Note: RTP port for audio must be a valid port number.
RTCP port for audio: 5503 Note: RTCP port for audio must be a valid port number.
Rtp Packet Size: 16384 (1448-16384)
RTP Multicast Settings
Enable RTP Multicast
RTP Multicast Video Port1: 5100
RTP Multicast Audio Port1: 5102
RTP Multicast Video Port2: 5104
RTP Multicast Group Address: 239.225.76.55
RTP Multicast TTL: 15
OK
Cancel

Note: The default port numbers in this section are, for the most part, well-known or commonly known values. We recommend that they not be changed unless there is a specific reason to do so.

HTTP Port Settings

The **HTTP port** number is used access the camera via the HTTP protocol.

The **LiveView Port** number is used to transmit live-view information.

RTSP Settings

Real-Time Streaming Protocol (RTSP) is a protocol used to establish and control media sessions between end points.

You may change the access name for stream 1, stream 2, the RTSP port number, the RTP port for video, the RTCP port for video, RTP port for audio, and RTCP port for audio.

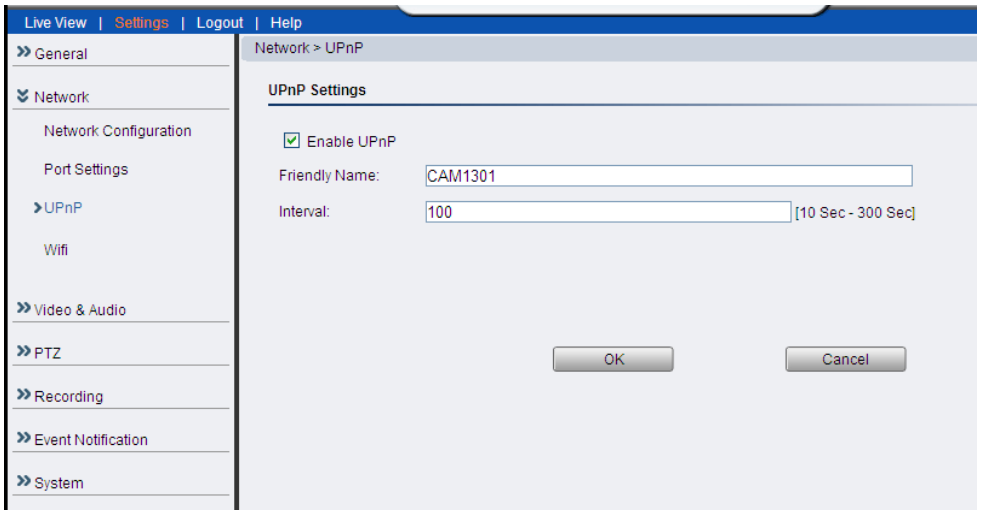
> **Note:** The RTP port number must be an even number. After entering the RTP port number, the RTCP port number will automatically be set to the RTP port number + 1.

RTP Multicast Settings

Tick **Enable RTP Multicast** to set up multicast via the RTP protocol. The **RTP Multicast video/audio port and group address** can also be set.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

UpnP



Universal plug and play (UPnP) is a protocol that simplifies the implementation of networks by allowing new hardware to connect seamlessly to a network. The settings for this feature can be found under **Network> UPnP**.

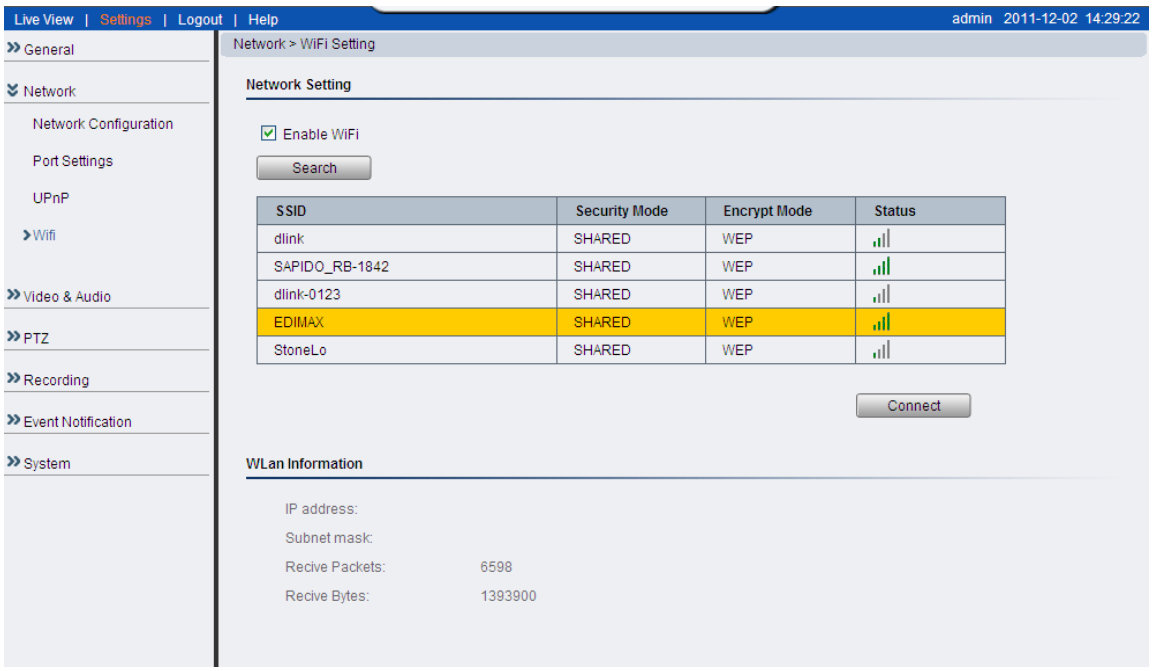
To enable UPnP, first check the **Enable UPnP** box. If you wish to change the default values, there are two fields that can be edited.

- **Friendly Name** - An identifier for the camera on the network.
- **Interval** - The time between camera-sent UPnP updates.

Click **OK** to activate UPnP or **Cancel** to abort the changes before you leave the page. Once activated, the camera will be visible to other devices on the network.

Note: If the computer does not have UPnP installed, you can add it by going to **Start> Control Panel> Add or Remove Programs**. In the Add or Remove Programs page, select **Add/Remove Windows Components**>**Networking Services** and click **Details**. Select **UPnP** from the popup window, and **OK** out to install **UPnP** services.

Wifi Setting



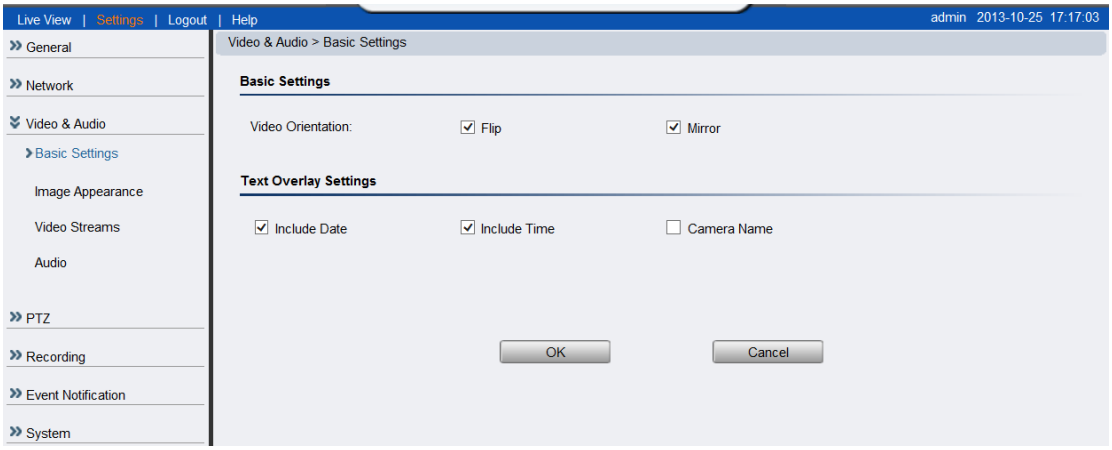
Users can use a USB dongle to access Wifi:

1. Insert a wireless USB adapter into the USB connector.
2. Tick **Enable Wifi** and click **Search.**
3. Select a SSID (Service Set Identifier) and Click **Connect.**
4. The following window will pop out.

Enter the Password in **Password** and **Confirm Password**. Click **OK** to save or **Cancel** to abort the changes before you leave the page.

Note: Only WEP (Wireless Encryption Protocol) is supported; WAP (Wireless Application Protocol)/WAP2 are not supported.

Video & Audio Settings



Video and audio are the heat of a network camera's functionality. The settings for video and audio can be found under **Settings> Video & Audio**. Under this section, you can access basic video and audio settings, video appearance parameters, video stream settings, as well as audio parameters.

Basic Settings

Basic settings pertain to simple live-view tweaks. These parameters can be found under **Video & Audio> Basic Settings**.

Video Orientation

In certain mounting situations, the default video output may not be oriented correctly. This setting allows you to change the orientation of the output video.

- **Flip** - flips the image vertically.
- **Mirror** - flips the image horizontally.

Text Overlay Setting

The text overlay involves is the text displayed in the black bar at the top of the output screen. You can display multiple text messages at the same time. (Only the camera name will display if the resolution is 160 x 120).

- **Include Date** - Displays the current date.
- **Include Time** - Displays the current time.
- **Camera Name** - Displays the name of the camera.

Image Appearance Settings

These settings, found under **Video & Audio > Image Appearance**, deal with the video output of the camera. There are two tabs, *Image Attributes* and *Sensor Configuration*, as well as *Advanced Settings*.

The details for each model are listed below.

Image Appearance

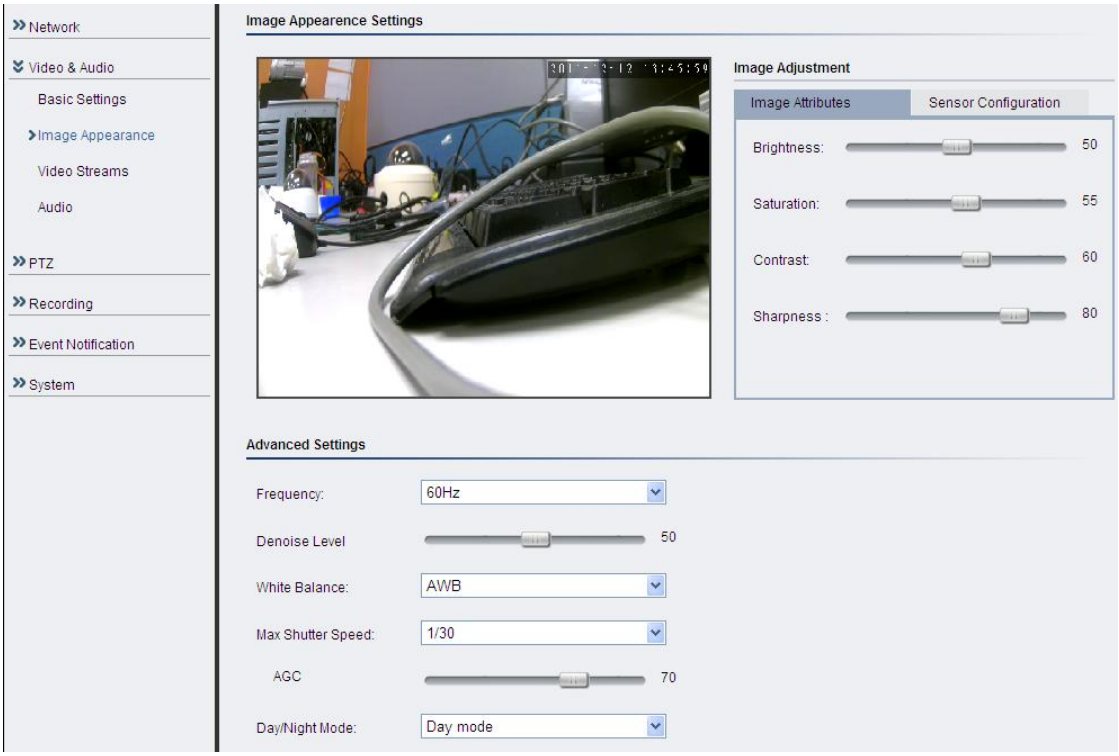


Image Attributes

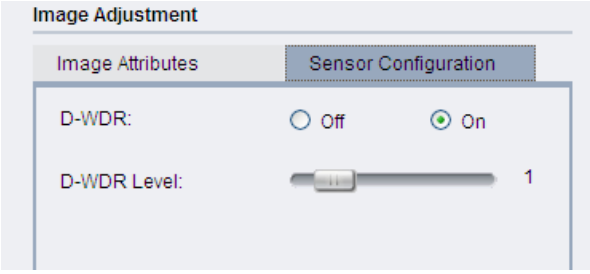
These parameters deal with the image lighting and color. All parameters are values ranging from (0) to (100). Dragging the slider to the right increases the value, while dragging to the left lowers the value. The adjustments will be displayed in real-time in the window to the left of the sliders.

- **Brightness** - Adjusts the brightness of the image.

Note: In certain situations, the sensor may experience banding issues. In these cases, please turn raise the brightness.

- **Saturation** - Adjusts the saturation of the image.
- **Contrast** - Adjusts the contrast of the image.
- **Sharpness** - Adjusts the sharpness of the image.

Sensor Configuration

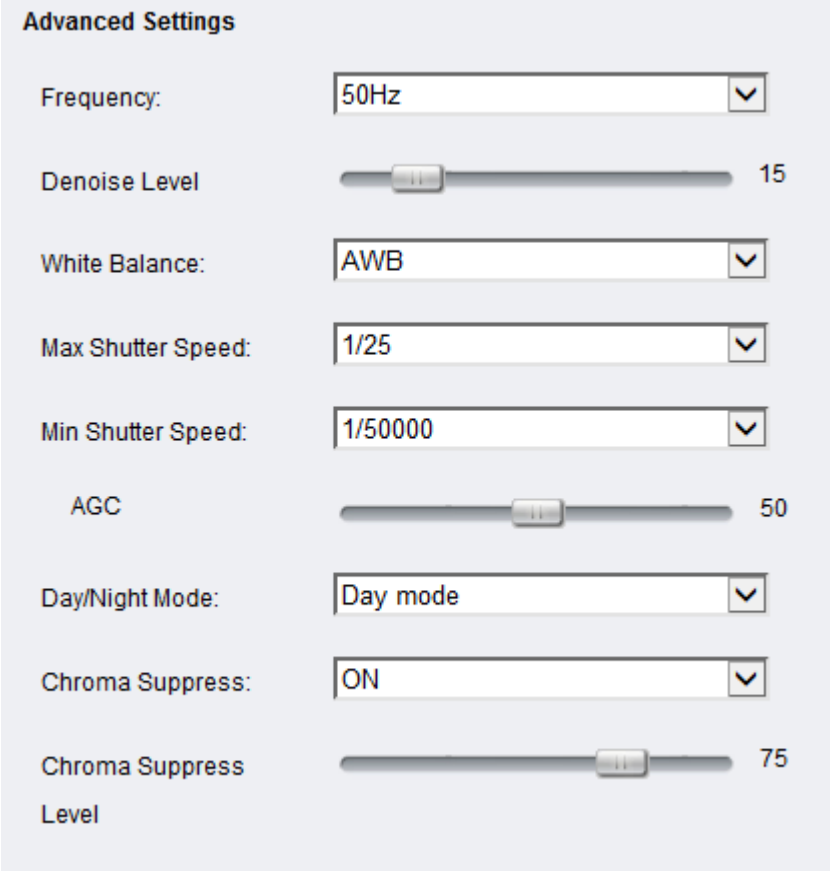


The *Sensor Configuration* can be accessed by clicking on the tab to the right of the *Image Attributes* tab. The following parameters can be changed:

- D-WDR - Specifies if the wide dynamic range (WDR) function is activated. If activated, the WDR function will attempt to preserve detail at contrast extremes.
    - D-WDR Level- Specifies the WDR correction level ranging from 1 (least) to 10 (most).

Advanced Settings

The *Advanced Settings* allow you to make changes to the following parameters:



- **Frequency** - The user can choose to compensate for 50Hz or 60Hz lighting.
- **Denoise** – Removes video noises.
- **Max Shutter Speed** - Longer shutter times allow more light into the sensor, resulting in a cleaner picture, however longer shutter times can result in motion blur. The user may choose the following shutter speeds: 1/2s, 1/5s, 1/7.5, 1/15s, 1/30s, 1/60s, 1/120s, 1/250s, 1/500s, 1/1000s and 1/10000s.
- **AGC Gain** - Automatic gain control (AGC) adjusts the video gain level to a variety of inputs. This setting provides a baseline value for the AGC. Values higher than this will be darkened, and values that are lower will be brightened. AGC should be adjusted so that the area of interest is best lit.
- **White Balance** - This setting allows users to choose the color balancing method used.
    - **AWB** - Automatically chooses white level.
    - **MWB** - The user must specify the red and blue gain levels to achieve the correct white level.
        - **R Gain** - The gain applied to the red video channel.
        - **B Gain** - The gain applied to the blue video channel.
- **Day/Night Mode** - Sets the day (color) and night (black and white, IR cut filter off where applicable.) Night mode sacrifices color information to produce a clear picture with less light.
    - **Auto** – The camera will automatically choose between day/night mode.
        - **Night Threshold** – Once selected, the camera will switch to night mode. Set the value in 0~255.
        - **Day Threshold** - Once selected, the camera will switch to day mode. Set the value in 0~255.
    - **Day mode** - Forces day mode.
    - **Night mode** - Forces night mode.
    - **Schedule for day mode** - Allows the user to set a time for day/night transitions.

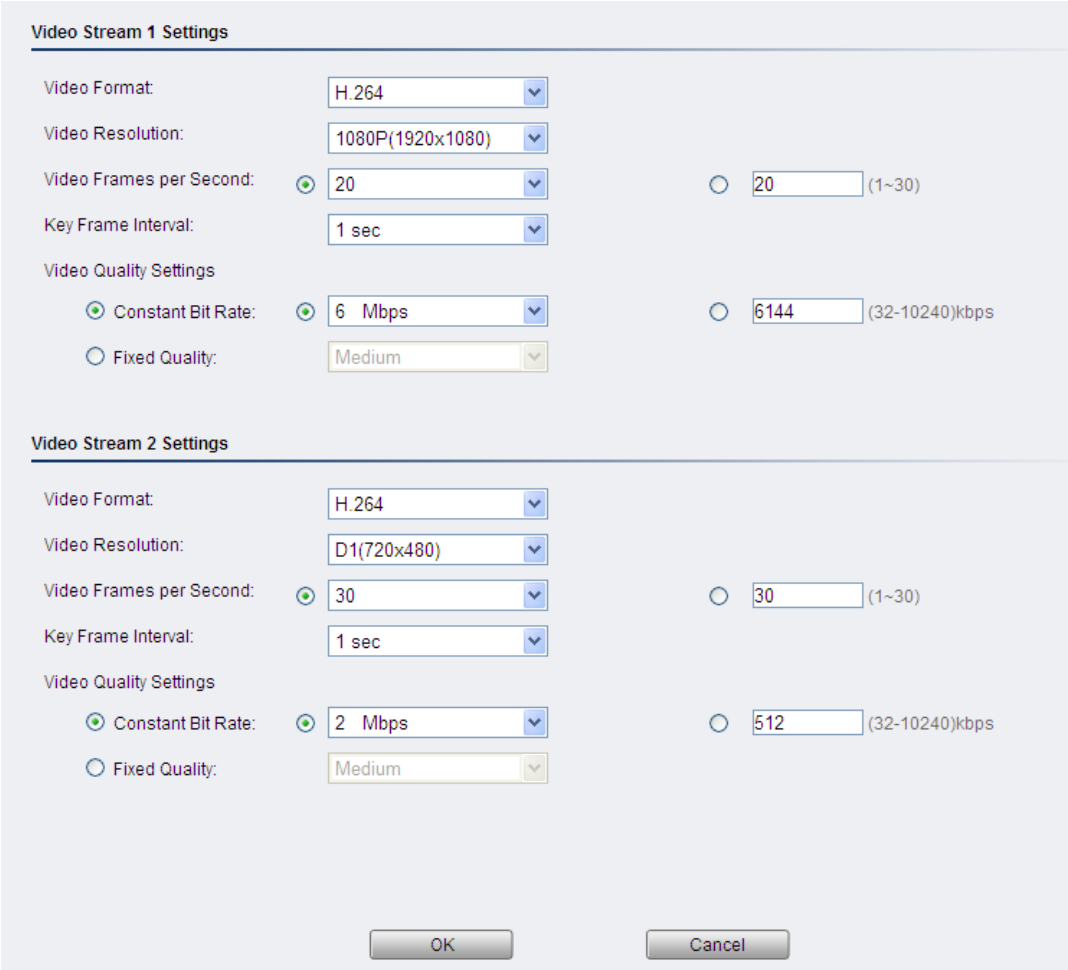
- **From:** - The time, in hours and minutes, when the camera will be in day mode.
- **To:** - The time, in hours and minutes, when the camera will switch to night mode.

- **Chroma Suppress** - Reduces the false color phenomena.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

Video Streams

The configuration for video streams, including resolution, frame rate and image quality parameters can be found under **Video & Audio> Video Streams**.



The page is split into settings for 2 streams. Common settings are:

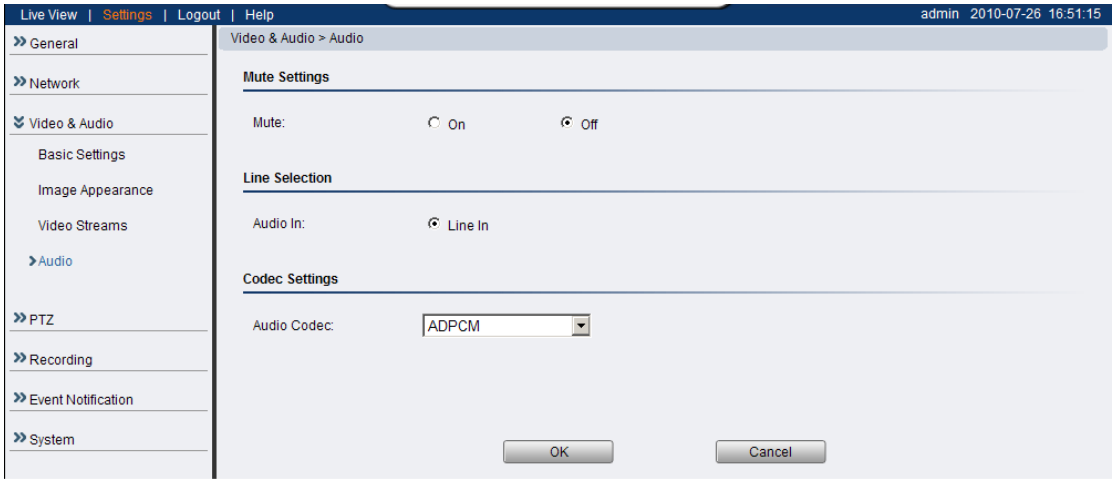
- **Video format** - The compression format for the video stream.
    - **H.264** - Provides the best compression, and clear picture, but is processor intensive.
    - **MJPEG** - Provides minimal compression, with the best picture quality. Each frame is stored as a discrete JPEG. This option is only available in Stream 1.
- **Video Resolution** - Sets the resolution of the video output. The following options are available: 1080P (1920 x 1080), SXGA (1280 x 1024), 720P (1280 x 720), D1 (720x480), VGA (640x480) and QVGA (320x240) for steam1; 640x360, 320x 180 and 192x108 for stream2.

- **Video Frames per Second** - Sets the number of frames per second. 1, 2, 3, 5, 10, 15, 20, 25, 30 FPS are possible values. You can also choose to type in the values you want (the range is from 1~30).
- **Key Frame Interval** - Sets the period between minimally compressed recovery frames that don't require other video frames to decode. 1s, 2s, 3s, and 4s are possible values.
- **Video Quality Settings** - Sets the quality of the video image.
- **Constant Bit Rate** - In this mode, the camera will maintain a constant bit rate output, regardless of video quality. Bit rates available are dependent on the video resolution chosen, and range from 128 kbps to 10 Mbps. You can also choose to type in the values you want (the range is from 32~10240).
    - **Fixed quality** - In this mode, the camera will attempt to maintain a constant quality output, up to a maximum bandwidth of 10 Mbps.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

Audio Settings

The audio settings, under **Video & Audio> Audio Settings**, contain parameters dealing with audio coming from the cameras built in mic, or an external microphone.



- **Mute** - Selects whether or not to mute the incoming audio from the camera.
- **Audio In** - Selects the source for the camera audio feed. **Line In,** an external source connected to the camera's line-in port, is the only option.
- **ADPCM Bit Rate** - Adaptive differential pulse-code modulation (ADPCM) is a method for digitally encoding audio signals. Only one bit rate, 32 Kbps, is currently supported. Audio will be encoded at this bit rate.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

Note: Only Stream 1 supports audio.

PTZ

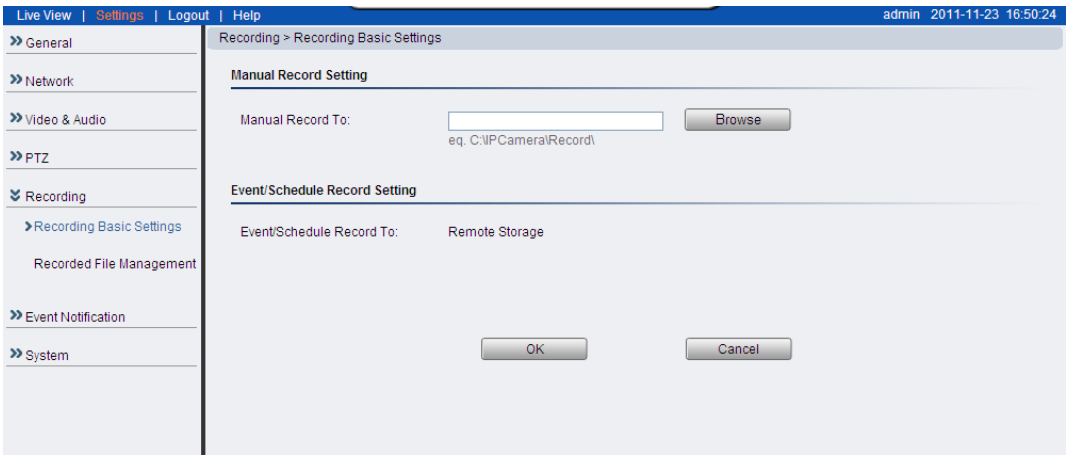
Note: CAM 13xx series do not support PTZ functionalities.

Recording

The Recording menu, **Settings> Recording**, deals with recording settings and managing recorded video files.

Recording Basic Settings

Recording basic settings, **Recording > Recording Basic Settings** are parameters which deal with the recording location and scheduling.



The following parameters can be configured within this menu:

- **Manual Record To** - Defines the path for manual recording. Screenshots and user recordings will be saved in this location.
- **Event/Schedule Record To** - Allows the user to set the destination for event or scheduled recording. Event and scheduled recording settings are found under **Settings> Event Notification.**

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

Recorded File Management

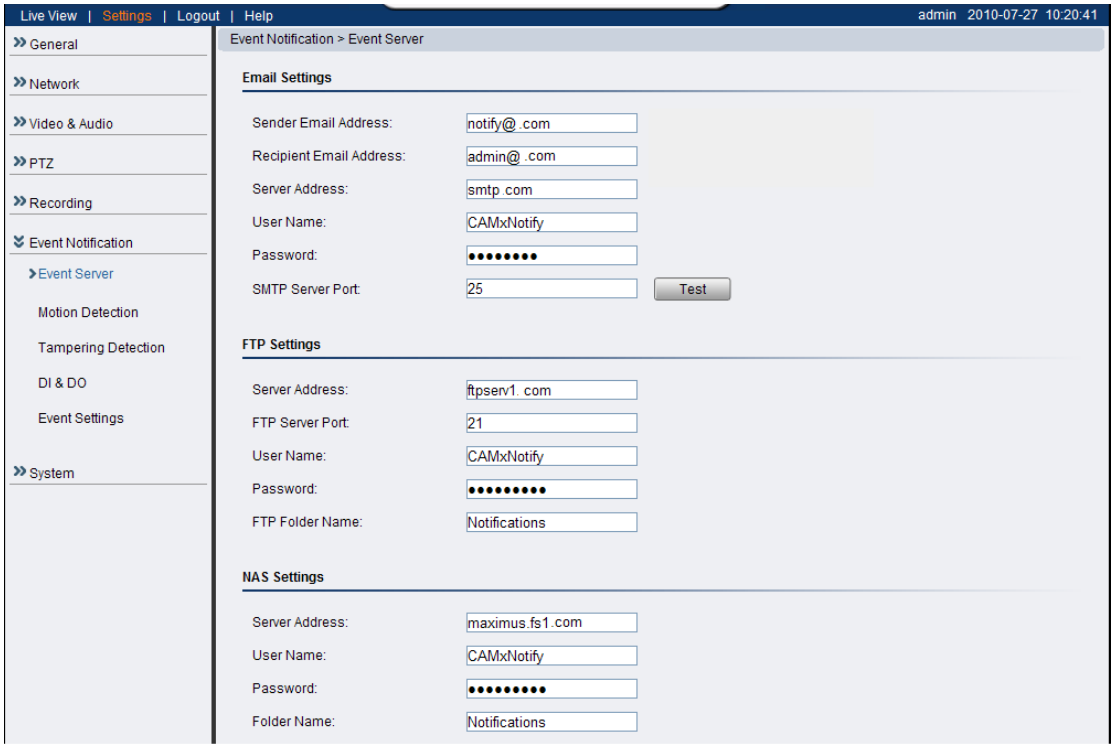
Note: CAM 13xx series do not support Recorded File Management.

Event Notification

Event Notification settings, found under **Settings> Event Notification**, deal with the event detection, scheduled recording, and notification abilities of the camera.

Event Server

The event server, which can be configured under **Event Notification> Event Server**, is the communications center of the camera. This section deals with the configuration of E-mail and FTP notifications, as well as remote recording.



Email Settings

Email settings are used to configure e-mail notifications.

- **Sender Email Address** – The return e-mail address for notifications. This should be your notification address.
- **Recipient email address -** The e-mail address notification emails will be sent to. Only one email address can be entered.
- **Server address** - The IP or address of the e-mail server.
- **User Name** - The user name of the notifications e-mail account.
- **Password** - The password of the e-mail account.
- **SMTP Server Port** - the SMTP port of the email server; Default 25.

- **Test** - Click this button to send a test email. E-mails will only be sent if all parameters are entered correctly.

FTP Settings

FTP settings are used to configure recording to a remote location via the file transfer protocol.

- **Server Address** - The address of the FTP server.
- **FTP Server Port** - The port number of the FTP server; Default 21.
- **User Name** - The user name of the FTP account.
- **Password** - The password of the FTP account.
- **FTP Folder Name** - The name of the folder on the FTP site which video files will be stored in.

NAS Settings

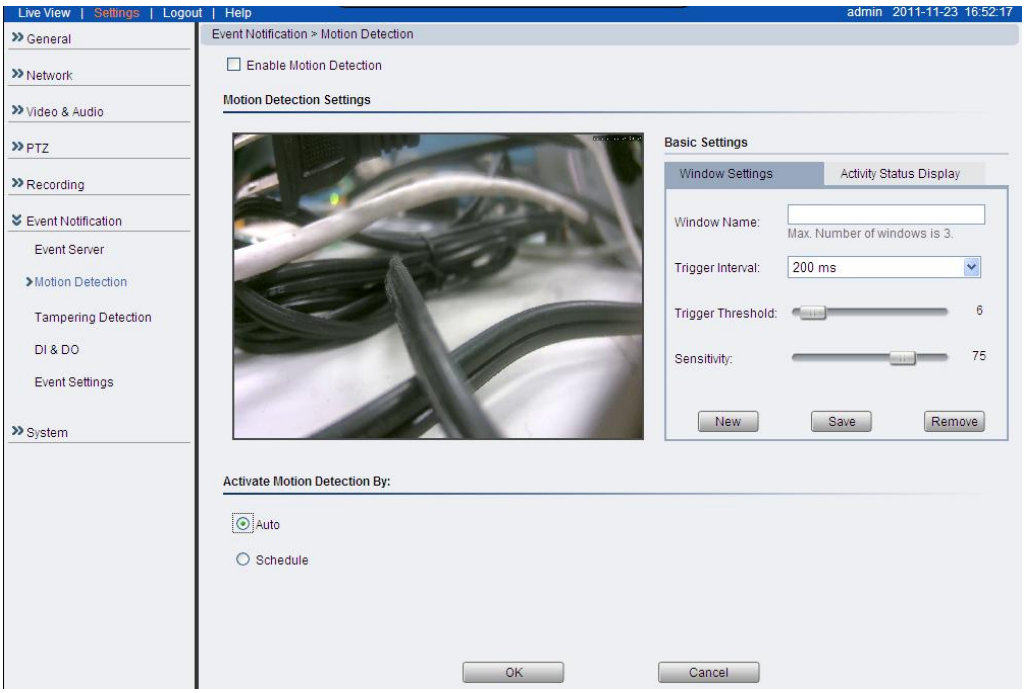
NAS settings are used to configure recording to network attached storage.

- **Server Address** - The address of the NAS server.
- **User Name** - The user name of the NAS account.
- **Password** - The password of the NAS account.
- **Folder Name** - The name of the CIFS account folder on the server.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

Motion Detection

The motion detection functionality of the camera can be found under **Event Notification> Motion Detection**.



Motion Detection Window Management

To detect motion, first a detection window must be created. First click the *Window Settings* tab to enter the window configuration, and click **New** to add a new detection window. A maximum of 3 motion detection windows can be added. Each new window will be created with a default name *Window N*, where *N* is the number of the window. After creating the window, clicking it will select the window. You can drag and resize the window using your mouse. You can also change the following parameters:

- **Window Name** - Tthe name of the motion detection window.
- **Trigger Interval** - The time interval between motion triggers. Options available are: 200 ms , 400 ms, 800 ms, and 1000 ms.
- **Trigger Threshold** - The percentage change in the window before a motion alarm is triggered.
- **Sensitivity** - The sensitivity of the motion box.

Click **Save** to save all settings. Settings of existing windows can also be changed by selecting the window and changing the settings. To delete a window, select a window in and click **Remove**.

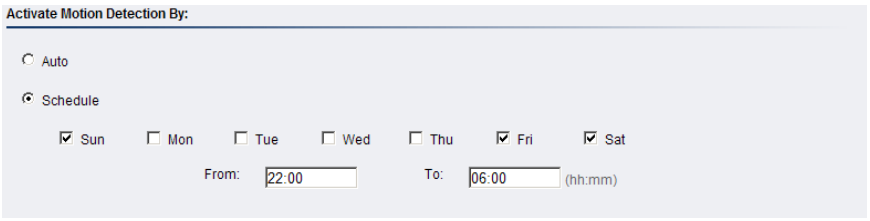
After windows are set, you can activate motion detection by checking the **Enable Motion Detection** box.

Activating and Scheduling Motion Detection

Motion detection is activated by checking the **Enable Motion Detection** box.

Activate Motion Detection By: denotes when motion detection will be triggered as an event.

- **Auto** – As long as **Enable Motion Detection** is checked, an event is triggered.
- **Schedule** – Selecting this option allows to manually schedule the



times motion detection will be active. Select the days of the week that Motion Detection is active by checking the corresponding boxes, and fill in a start time and end time for motion detection in the **From:** and **To:** boxes.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

Triggering a Motion Event

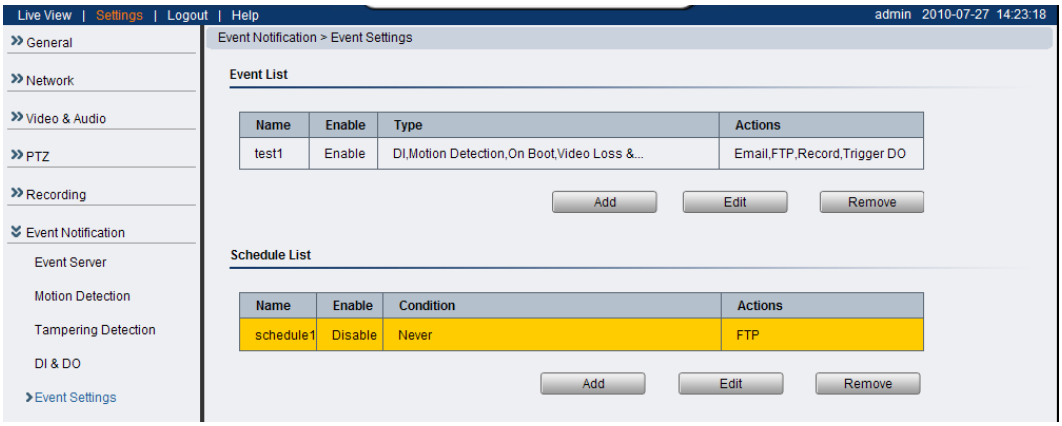
The video displaying on the window is the live streaming video. The *Activity Status Display* tab displays the amount of motion detected in a selected window. By raising the **Sensitivity** of the window the motion values for a given motion, which are in shown in yellow, will be higher. When the motion value reaches or crosses the **Trigger Threshold,** denoted by the red line, a motion event will be triggered. Motion alarm handling and notifications can be configured under Event Settings.

DI & DO

Note: CAM 13xx series do not support DI & DO.

Event Settings

Event settings deal with alarm handling and notification, as well as feature scheduling. These settings can be found under the **Event Notification> Event Settings** menu.



The event handler is rule based. There are lists for both two types of rules:

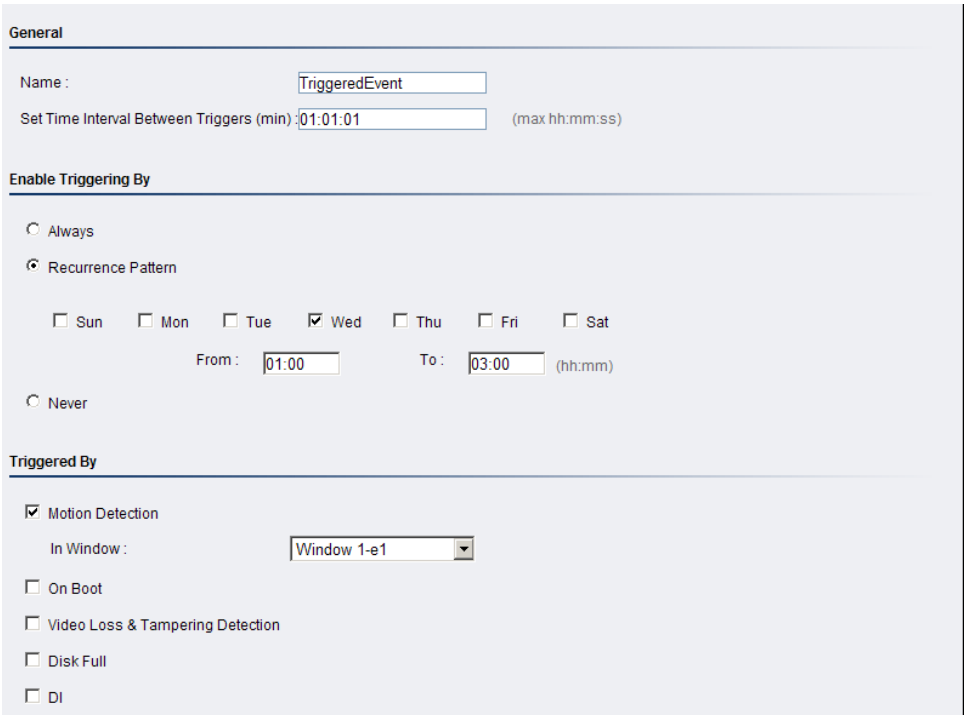
- Event List – Contains rules based on triggered events such as motion detection or DI triggers.
- Schedule List – Contains time-based rules.

Each rule has an action list. When the conditions for rule are met, the actions specified by the rule are carried out. Users may perform the following actions in both Event and Schedule lists:

- **Add** - Clicking on the **Add** button adds a new rule to a list.
- Select - Clicking on an existing rule selects the rule, highlighting it in yellow.
    - **Edit** - A selected rule may be edited by clicking on the **Edit** button.
    - **Delete** - A selected rule may be deleted by clicking on the **Delete** button.

Adding/Editing an Event Rule

The Add and Edit screens contain the following triggering actions:



Note: If editing a rule that has not been triggered, the rule will not be triggered after until after editing is complete. If the rule is triggered, any changes will not be applied until the current trigger is resolved.

General

The following general fields should be filled in:

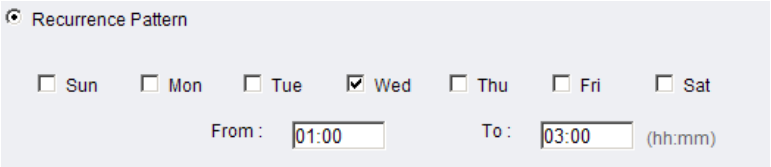
- **Name** - Specifies the name of the Event.
- **Minimum time interval between triggers** - The time frame in which a subsequent trigger of the same event will be ignored (maximum 23:59:59).

Enable Triggering By

The next step is to specify the frequency of trigger response. 3 options are available:

- **Always** - The default setting; Triggers event when conditions are met.
- **Recurrence Pattern** - Enables triggering only if conditions are met during a specified time period. To specify the period, select the days of the week that the trigger is active by checking the corresponding

boxes, and fill in a start time and end time for motion detection in the **From:** and **To:** boxes.



- **Never** – The event is never triggered.

Enable Triggering By

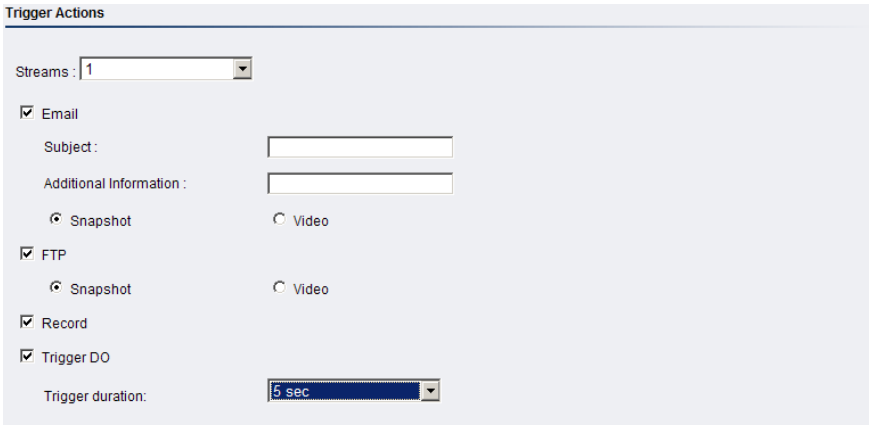
After the frequency is selected, triggering conditions can be set. Multiple conditions can be set at once. Available options include:

- **Motion Detection** - Trigger when motion is detected.
    - **In Window** – Specifies the detection window that will trigger the event.

  Please refer to the section on Motion Detection for details.
- **On Boot** - Trigger when camera reboots.
- **Video Loss & Tampering Detection** - Trigger when video signal is lost or tampering is detected. Please refer to the section on Tampering Detection for more detail.
- **Disk Full** - Trigger when the SD disk installed in the camera is full.
- **DI** - Trigger when a DI trigger occurs. For more information please refer to the section on DI & DO.

When Triggered

The actions to take when trigger conditions are met are configured here.



The following options are available:

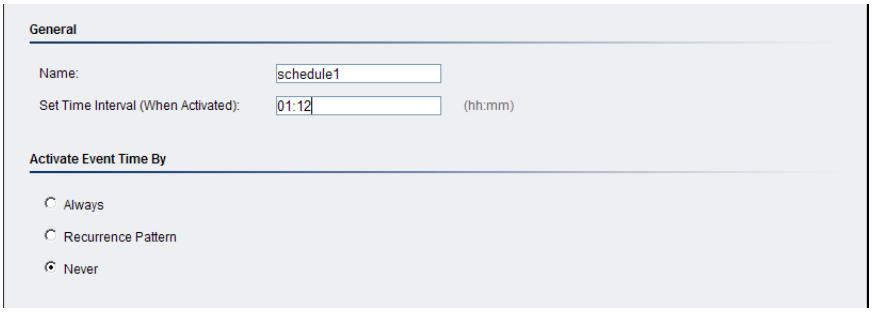
- **Streams** – Selects the stream from which the snapshot or recording will be obtained.

- **Email** – E-mails notifications to the email address specified in the Event Server settings. If this option is chosen, fill in the following:
    - **Subject** - The subject line of the notification e-mail.
    - **Additional Information** - Contents of the notification e-mail.
    - **Snapshot/Video Clip** - Choose to send a snapshot or video attachment from 5s before to 30s after the trigger.
- **FTP** - uploads a snapshot or video clip to a FTP location specified in the Event Server settings.
    - **Snapshot/Video Clip** - Choose to upload a snapshot or video file from 5 seconds before to 30 seconds after the trigger. Files are sent as attachments.
- **Record** - Records video to the server specified in the Event Server settings when triggered. The video clip stored on both remote storage server and local storage is a video file 35 seconds in length (5 seconds before and 30 seconds after the trigger)
- **Trigger DO** – A Digital output signal is sent when triggered.
    - **Trigger Duration** - **The** length of time that the DO signal is sent. Options are 1, 2, 5, 10, 20 or 30 seconds. For more information please refer to the section on DI & DO.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

Adding/Editing a Scheduled Rule

The Add and Edit screens contain the following actions:



Note: If editing a rule that has not been triggered, the rule will not be triggered after until after editing is complete. If the rule is triggered, any changes will not be applied until the current trigger is resolved.

General

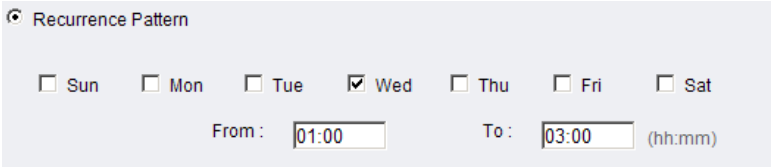
The following general fields should be filled in:

- **Name** - Specifies the name of the Event.
- **Set Time Interval (When Activated)** - The trigger time of the event (00:00 to 23:59).

Enable Triggering By

The next step is to specify the frequency of trigger response. 3 options are available:

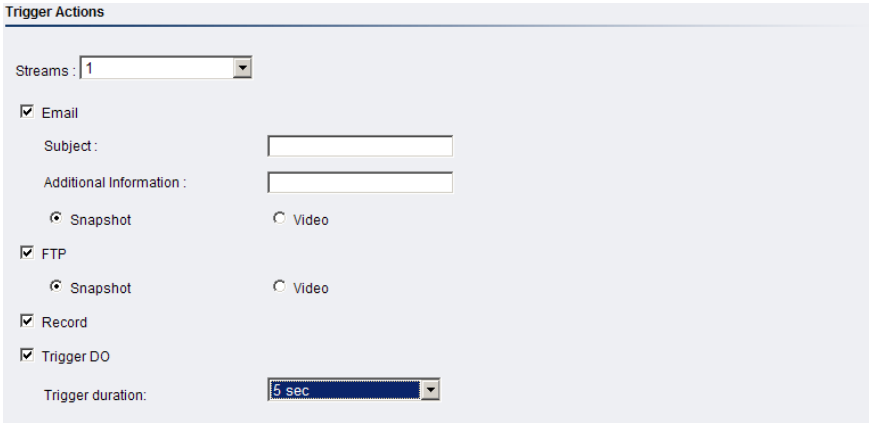
- **Always** - The default setting; Triggers event when conditions are met.
- **Recurrence Pattern** - Enables triggering only if conditions are met during a specified time period. To specify the period, select the days of the week that the trigger is active by checking the corresponding boxes, and fill in a start time and end time for motion detection in the **From:** and **To:** boxes.



- **Never** – The event is never triggered.

When Triggered

The actions to take when trigger conditions are met are configured here.



The following options are available:

- **Streams** – Selects the stream from which the snapshot or recording will be obtained.
- **Email** – E-mails notifications to the email address specified in the Event Server settings. If this option is chosen, fill in the following:
    - **Subject** - The subject line of the notification e-mail.

- **Additional Information** - Contents of the notification e-mail.
- **Snapshot/Video Clip** - Choose to send a snapshot or video attachment from 5s before to 30s after the trigger.

- **FTP** - uploads a snapshot or video clip to a FTP location specified in the Event Server settings.
  - **Snapshot/Video Clip** - Choose to upload a snapshot or video file from 5 seconds before to 30 seconds after the trigger. Files are sent as attachments.
- **Record** - Records video to the server specified in the Event Server settings and the microSD card when triggered. The video clip stored on both remote storage server and local storage is a video file 35 seconds in length (5 seconds before and 30 seconds after the trigger)
- **Trigger DO** – A Digital output signal is sent when triggered.
  - **Trigger Duration** - The length of time that the DO signal is sent. Options are 1, 2, 5, 10, 20 or 30 seconds. For more information please refer to the section on DI & DO.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

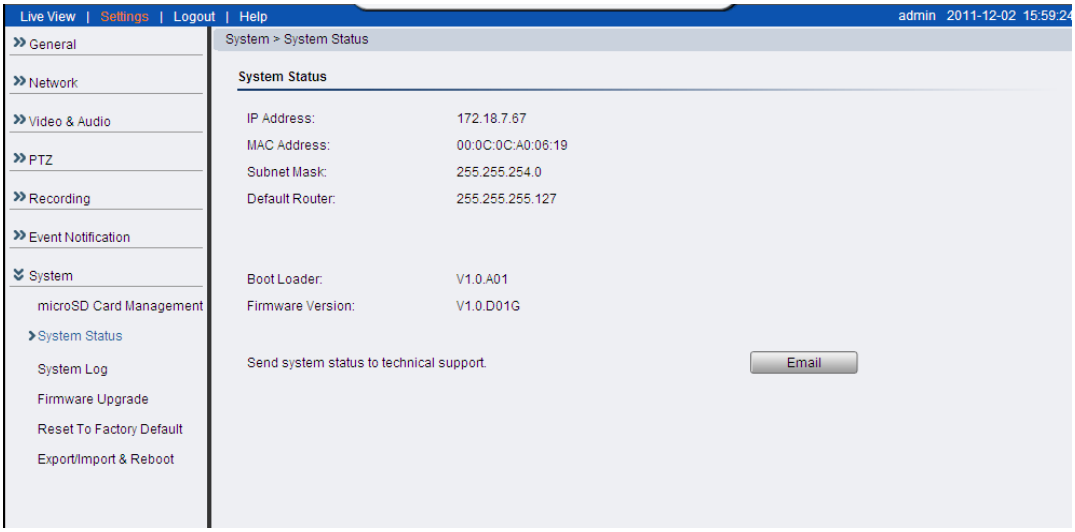
System

The system settings, which deal with hardware and firmware parameters, logs, and configuration lists, can be found under **Settings> System.**

MicroSD Card Management

Note: CAM 13xx series do not support MicroSD Card Management.

System Status



The camera status can be found under **System> System Status.**

This section displays useful system information including:

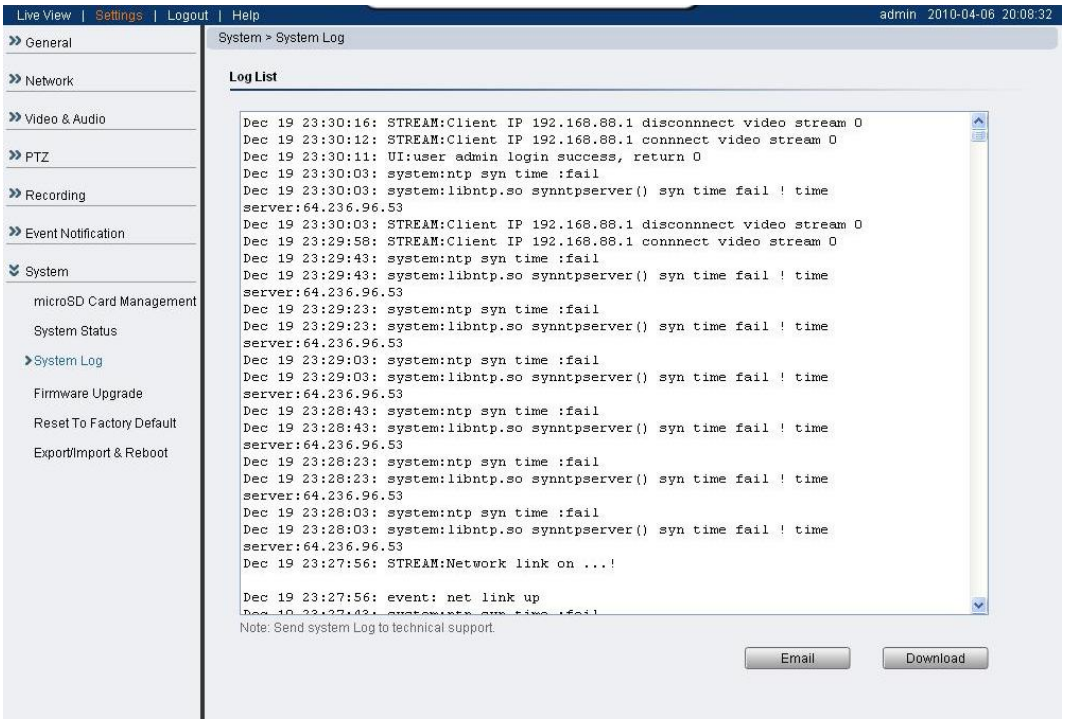
- Network Configuration defined manually or obtained from DHCP
    - **IP Address**
    - **MAC Address**
    - **Subnet Mask**
    - **Default Router** address
- Camera System Information
    - **Boot Loader** Version
    - **Firmware Version**

Clicking on the **Email** button will send the system status information out to the notification e-mail address specified in Event Server for troubleshooting or reference purposes.

System Log

The system log, **System > System Log,** provides a log for system messages and events. The log lists important information such as login information, changes to camera settings (both successful and unsuccessful), triggered events, and error messages.

This information can be very useful in the event of a camera failure or unauthorized entry.

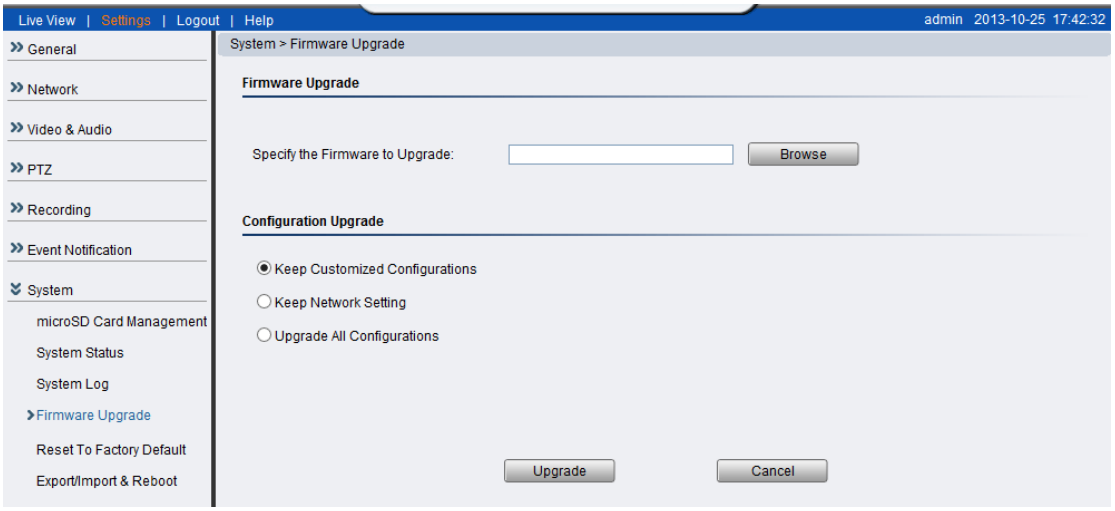

Live View | Settings | Logout | Help
admin 2010-04-06 20:08:32
General
Network
Video & Audio
PTZ
Recording
Event Notification
System
microSD Card Management
System Status
System Log
Firmware Upgrade
Reset To Factory Default
Export/Import & Reboot
System > System Log
Log List
Dec 19 23:30:16: STREAM:Client IP 192.168.88.1 disconnnect video stream 0
Dec 19 23:30:12: STREAM:Client IP 192.168.88.1 connnect video stream 0
Dec 19 23:30:11: UI:user admin login success, return 0
Dec 19 23:30:03: system:ntp syn time :fail
Dec 19 23:30:03: system:libntp.so synntpserver() syn time fail ! time server:64.236.96.53
Dec 19 23:30:03: STREAM:Client IP 192.168.88.1 disconnnect video stream 0
Dec 19 23:29:58: STREAM:Client IP 192.168.88.1 connnect video stream 0
Dec 19 23:29:43: system:ntp syn time :fail
Dec 19 23:29:43: system:libntp.so synntpserver() syn time fail ! time server:64.236.96.53
Dec 19 23:29:23: system:ntp syn time :fail
Dec 19 23:29:23: system:libntp.so synntpserver() syn time fail ! time server:64.236.96.53
Dec 19 23:29:03: system:ntp syn time :fail
Dec 19 23:29:03: system:libntp.so synntpserver() syn time fail ! time server:64.236.96.53
Dec 19 23:28:43: system:ntp syn time :fail
Dec 19 23:28:43: system:libntp.so synntpserver() syn time fail ! time server:64.236.96.53
Dec 19 23:28:23: system:ntp syn time :fail
Dec 19 23:28:23: system:libntp.so synntpserver() syn time fail ! time server:64.236.96.53
Dec 19 23:28:03: system:ntp syn time :fail
Dec 19 23:28:03: system:libntp.so synntpserver() syn time fail ! time server:64.236.96.53
Dec 19 23:27:56: STREAM:Network link on ...!
Dec 19 23:27:56: event: net link up
Note: Send system Log to technical support.
Email
Download

Clicking **Email** will send the log out as an email the notification e-mail address specified in Event Server; Clicking **Download** will begin the browser download process to download the log to the local PC.

Firmware Upgrade

Upgrading with a firmware file on a PC:

1. Power ON the device.
2. Connect to the camera through a web browser and go to **System > Firmware Upgrade.**



3. Choose “Specify the firmware to upgrade”. Click Browse…and locate the file [cam number]fw.
4. Select **Keep customized configuration** to keep current configuration settings, or **Upgrade all configurations** to clear all settings back to factory defaults.
5. Click **Upgrade** to start the upgrade. Upon completion of firmware upgrade, the camera will reboot (you will be logged off).
6. The LED will flash amber during the firmware upgrading. The camera will start reboot after firmware upgrade completed.
7. When the LED indicator turns green, the firmware is upgraded successfully.

Emergency Recovery Procedure

If the status LED shows steady amber for over 1 minute, the camera will become unresponsive and the upgrade process may have failed. Please contact with your dealer for technical support.

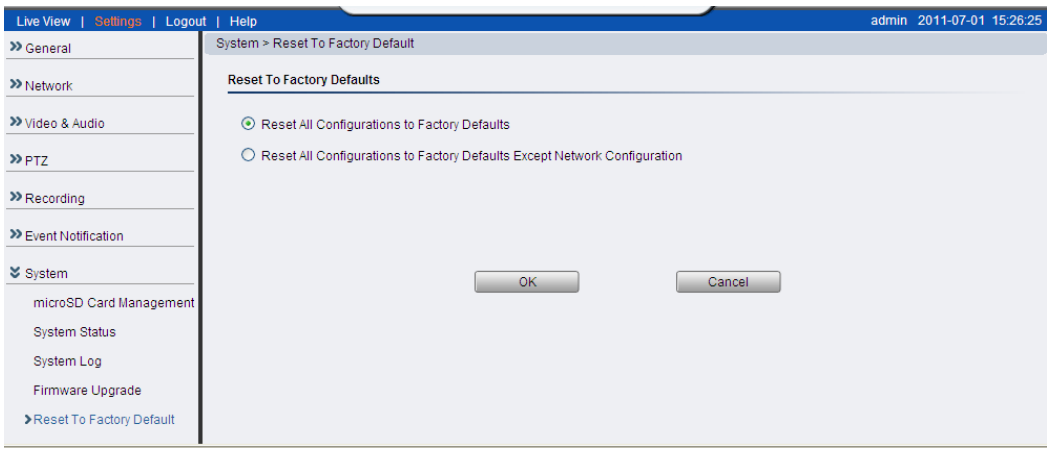
Resetting to Factory Default Settings

To reset the device to the factory default settings:

1. Make sure the device is in operation mode.
8. Using a needle or similar object to press and hold the Reset button until the camera restarts (about 2 seconds). The status LED will change to amber during startup.
9. When the Status Indicator changes to back to Green (which may take up to 1 minute), the process is complete. The default IP address is 192.168.88.10 if not assigned by a DHCP server.

Note: Resetting to the factory default settings using the Reset button will cause all parameters (including the IP address) to be reset. To reset the unit without changing parameters, disconnect and reconnect the power connector.

Camera resets can also be performed under **System> Reset To Factory Default.**

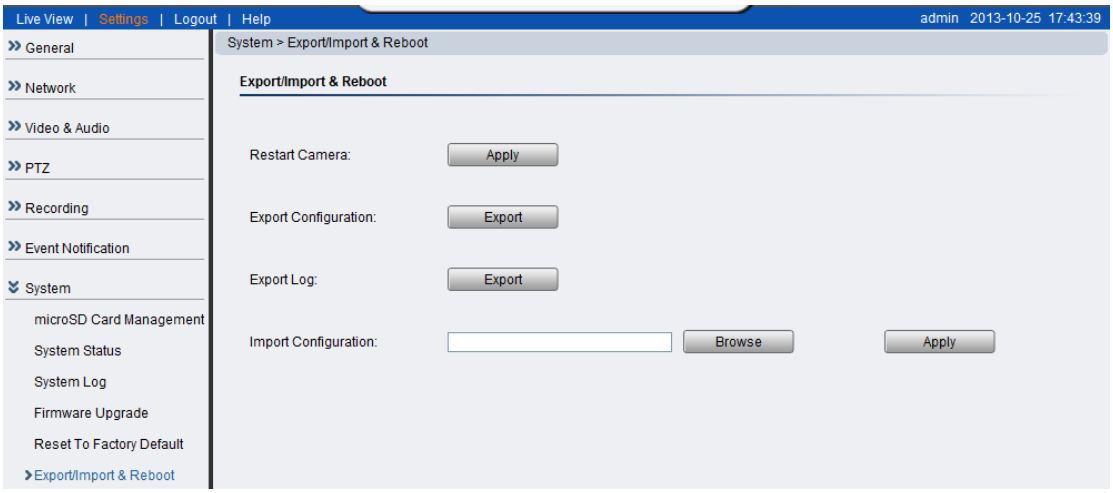


There are 2 types of reset. You can either reset all settings and configurations, or you can choose to keep the Network configuration, and reset all other settings and configurations.

Click **OK** after choosing a reset option to perform a reset.

Alternately, you may press the “Reset” button on the bottom of the camera to perform a complete reset of the camera (no configurations retained). To reset the camera by pressing the “Reset” button on the bottom of the camera, press and hold the “Reset” button for 3 seconds. During this time, the LED indicator in front of the camera will blink in red.

Export/Import & Reboot



In certain situations it may be necessary to restart your network camera (network settings changed, DHCP added, etc). The settings under **System> Export/Import & Reboot** allow you to restart the camera.

This menu also contains options to export configuration details (for backup or replication purposes), as well as import configuration details. The following options are available:

- **Restart Camera** - Resets the camera when **Apply** is clicked.
- **Export Configuration** - Export the camera's settings and configurations by clicking **Export**, this will start a browser dialogue to download the configuration.
- **Export Log**
- **Import Configuration** - Imports previously exported camera settings. The field should contain the path for the camera configuration file. Click **Browse**: to browse your PC for the configuration file. Click **Apply** to import the settings.

Chapter 5. Configuration through the IP Utility

Camera configurations can be done through web interface and IP Utility.

**For IP Utility, please look into this chapter; for web interface, please refer to Chapter 4.

		Web Interface	IP Utility
General	Basic Settings	V	X
	User Account	V	X
	Date & Time	V	X
Network	Network Configuration	V	Set IP Only
	Port Settings	V	X
	UpnP	V	X
	Wifi Setting (CAM1300/1311 Only)	V	X
Video & Audio Settings	Basic Settings	V	X
	Image Appearance Settings	V	X
	Video Streams	V	X
	Audio Settings	V	X
PTZ	RS-485 Settings/PTZ Settings	V	X
Recording	Recording Basic Settings	V	X
	Recorded File Management	V	X
Event Notification	Event Server	V	X
	Motion Detection	V	X
	Tampering Detection	V	X
	DI & DO	V	X
	Event Settings	V	X
System	MicroSD Card Management	V	X
	System Status	V	V
	System Log	V	X
	Firmware Upgrade	V	V
	Resetting to Factory Default Settings	V	X

	Export/Import	V	V
	Reboot	V	V
Camera Search		X	V
Login		V	V
Properties		X	V
Delete from Tool		X	V
Clearing and Setting Status		X	V
Camera Group Actions		X	V
Focus Tool		X	V

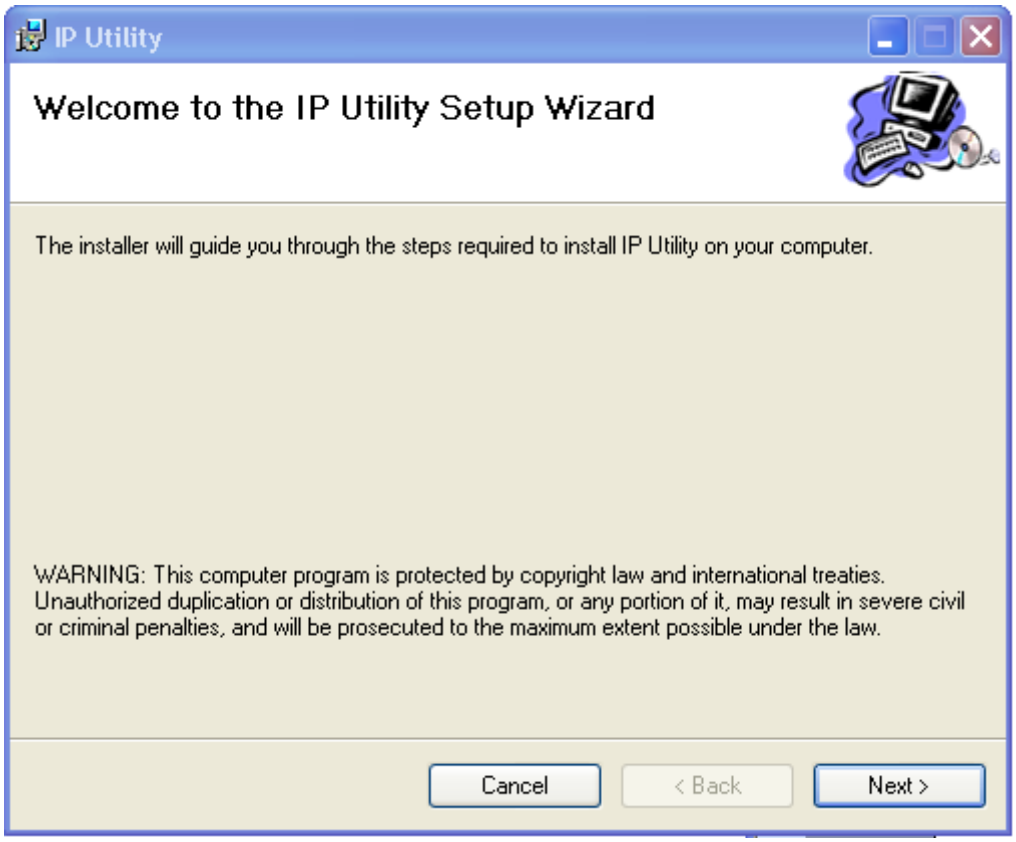
5.1. Overview

The IP Utility is a set of tools for network cameras. It includes tools to create, modify, delete and manage groups within the camera; The IP Camera Utility also provides tools to perform simple connectivity configuration, firmware upgrades and reboot operations. The utility is intended to simplify the configuration and management of multiple cameras.

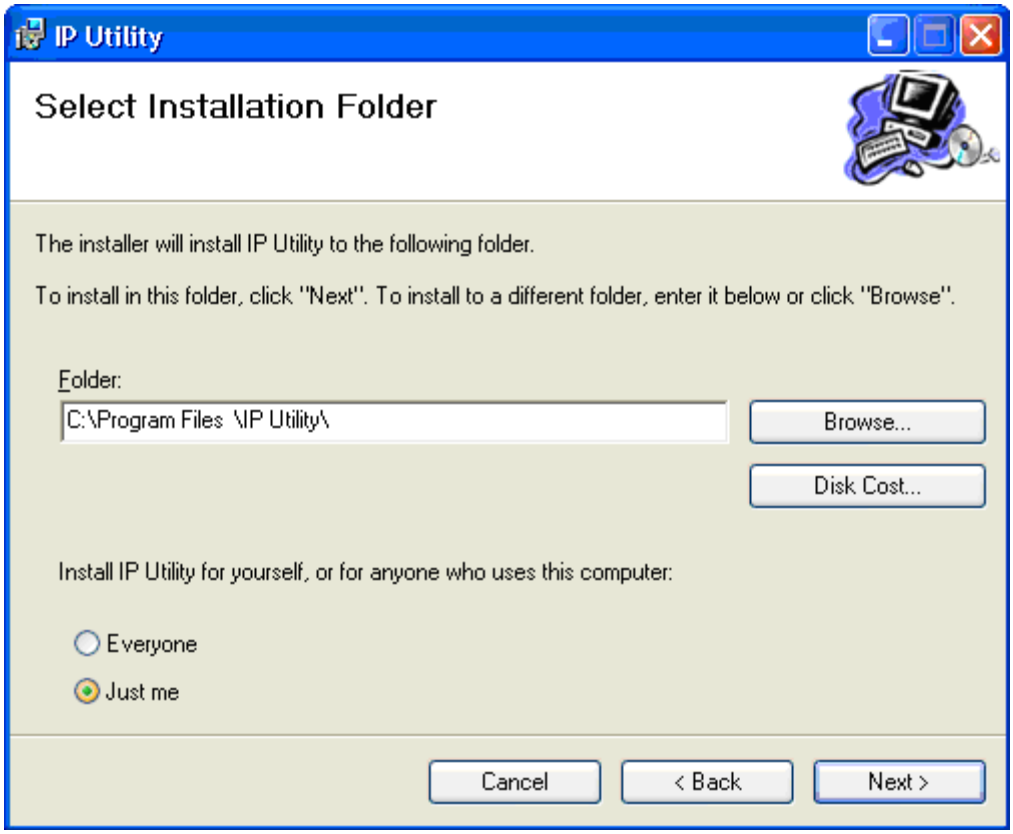
5.2. Installing the IP Utility

Install the IP Utility with the following steps:

1. Start SearchToolInstall.exe to begin the utility installation dialog:


IP Utility
Welcome to the IP Utility Setup Wizard
The installer will guide you through the steps required to install IP Utility on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
< Back
Next >

2. Click **Next** to continue with installation.


IP Utility
Select Installation Folder
The installer will install IP Utility to the following folder.
To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".
Folder:
C:\Program Files \IP Utility\
Browse...
Disk Cost...
Install IP Utility for yourself, or for anyone who uses this computer:
Everyone
Just me
Cancel
< Back
Next >

3. Fill in the **Folder** field to specify the installation path. Clicking **Browse…** pulls up a file system browser. Clicking **Disk Cost** will display free space and the space the utility will take up on disks.
4. Choose if you wish to install the application for the current user only (**Just me**) or all users on this computer (**Everyone**).
5. Click **Next** to continue. The system will respond with a ready screen. Click **Next** again. The system will respond by displaying installation progress.
6. You may click **Cancel** at any time before finishing introduction, or **<Back** if it is available to cancel or jump back a step. Click **Close** when after installation is complete. The software is ready to use at this point.

5.3. IP Utility Basics

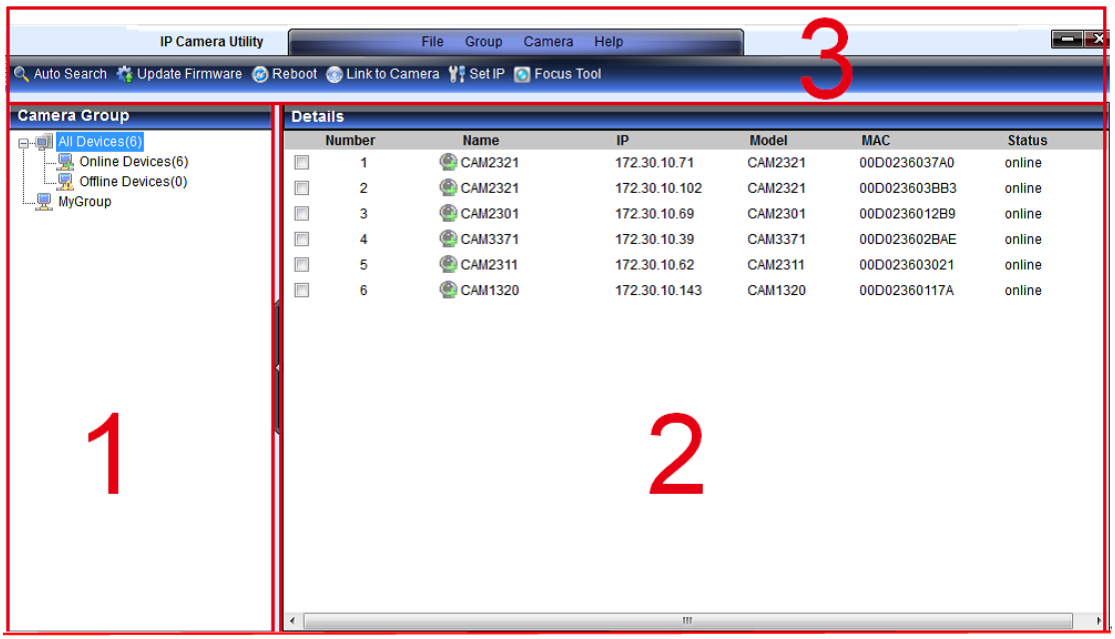
Starting the IP Utility

To start the IP Utility, double-click the **IP Utility** shortcut on your desktop or go to **Start > Program Files > IP Utility> IP Utility.**

Note: On startup, the utility will automatically scan for IP Cameras on the same subnet as the computer. In some cases this may result in longer wait times.

IP Utility Main Screen

The IP Utility main screen is divided into 3 sections:



1. **Camera Group Display** – displays group details
2. **Camera Detail Display** – displays camera details
3. **Function Buttons and Menus** – this section contains alternative access methods for functions that can be done within the Camera Group and Camera Detail Displays. This manual does not discuss this section separately.

Exiting the IP Utility

To exit the IP utility, click the X button on the top right corner of the screen or choose **File > Exit** from the menu bar.

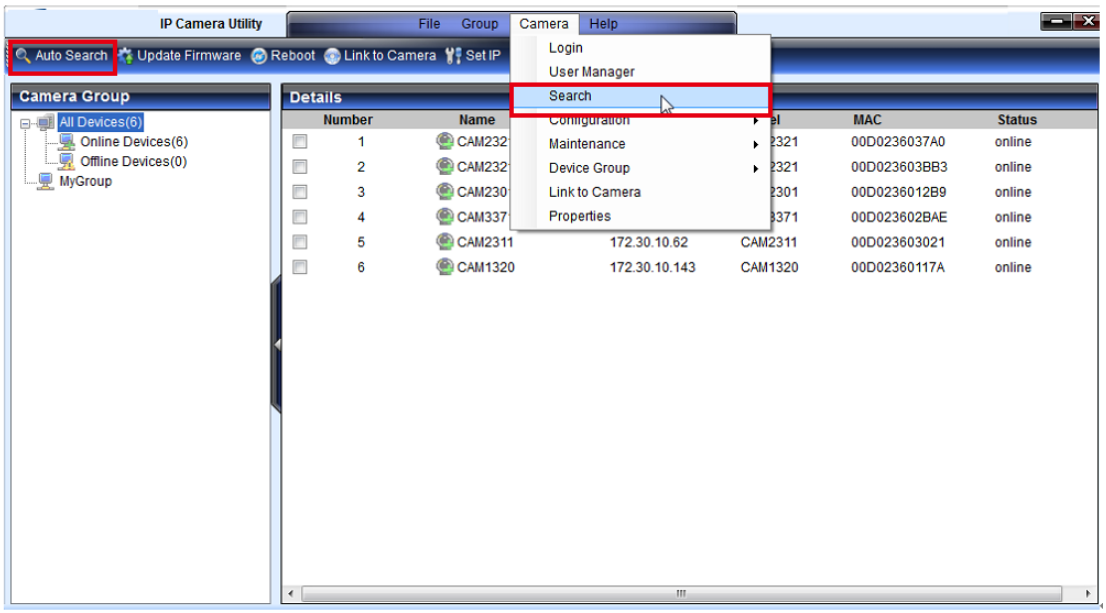
5.4. Camera Actions

This section displays camera information, including the IP, Name, Model, MAC Address, Status and Network Mask.

Search

Search updates the details for the cameras listed, as well as locates any new cameras connected on the same subnet. The search is performed every time the IP utility starts. To perform search again:

甲、 Click the **Auto Search** button or click **Camera > Search** in the menus. The search will begin, and a status bar will display the search progress.

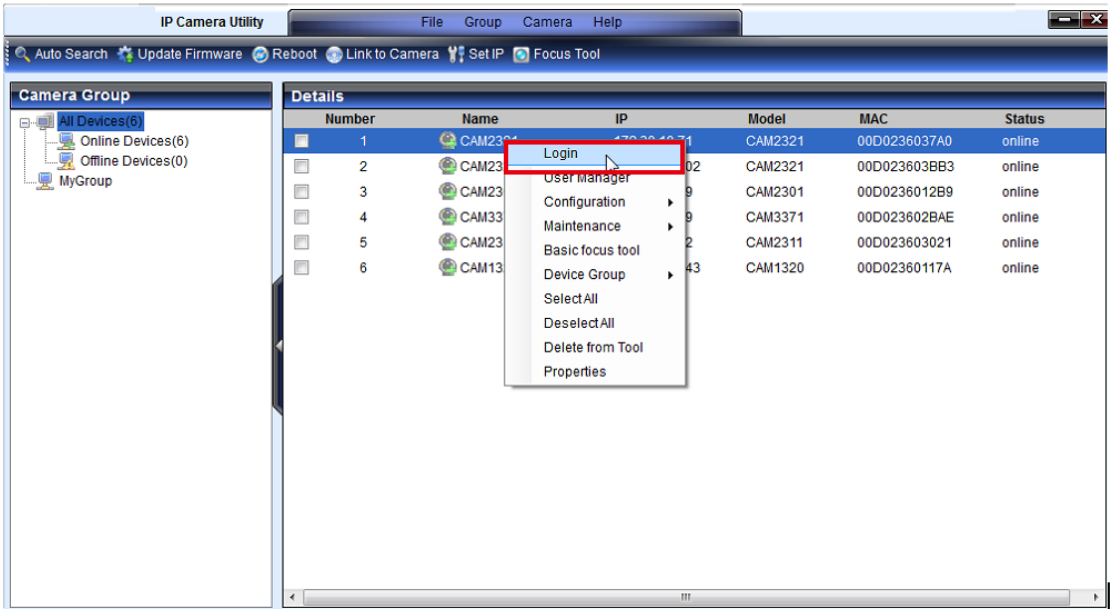


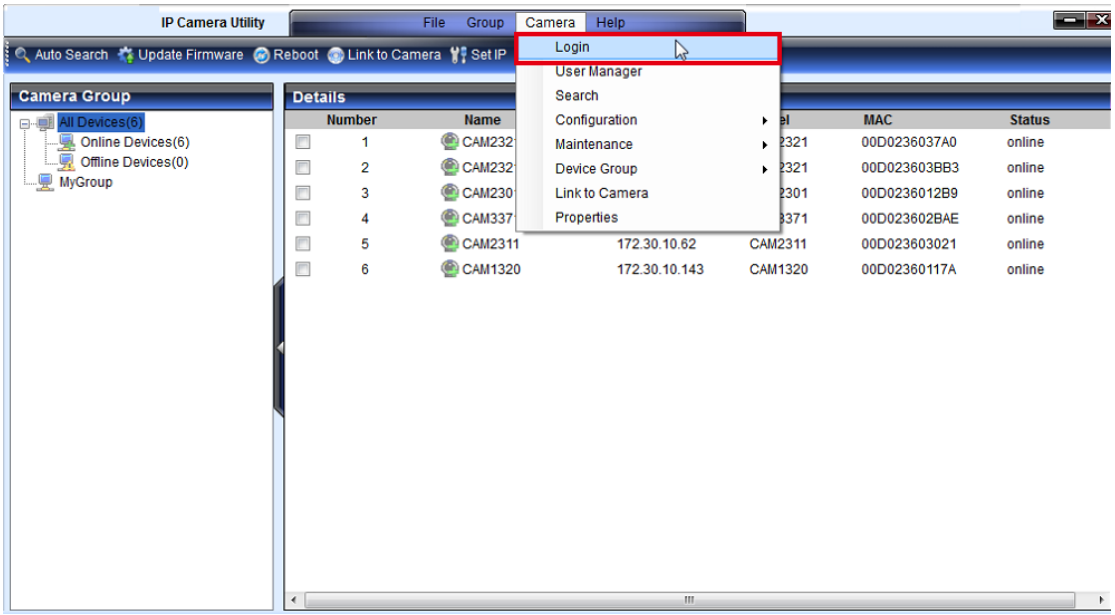
Note: The search may take up to 2 minutes, depending on your network configuration.

Login

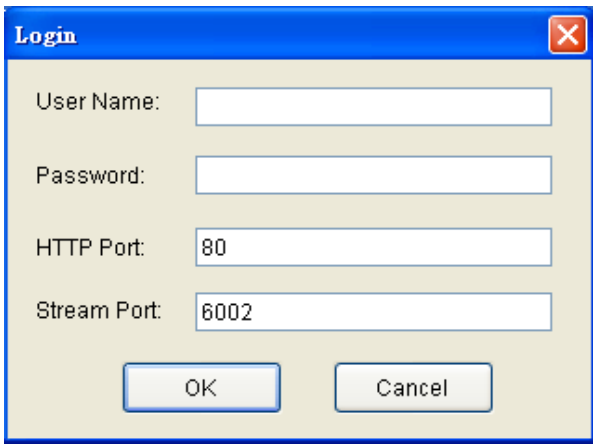
Before performing camera actions, most cameras require that proper login credentials are supplied. To login to a camera:

1. Right click the camera you wish to set. Select **Login** from the popup, the system responds with the *Login* window. Alternatively, click the camera entry and choose **Login** from the **Camera** menu.





2. Fill in the user name and password.



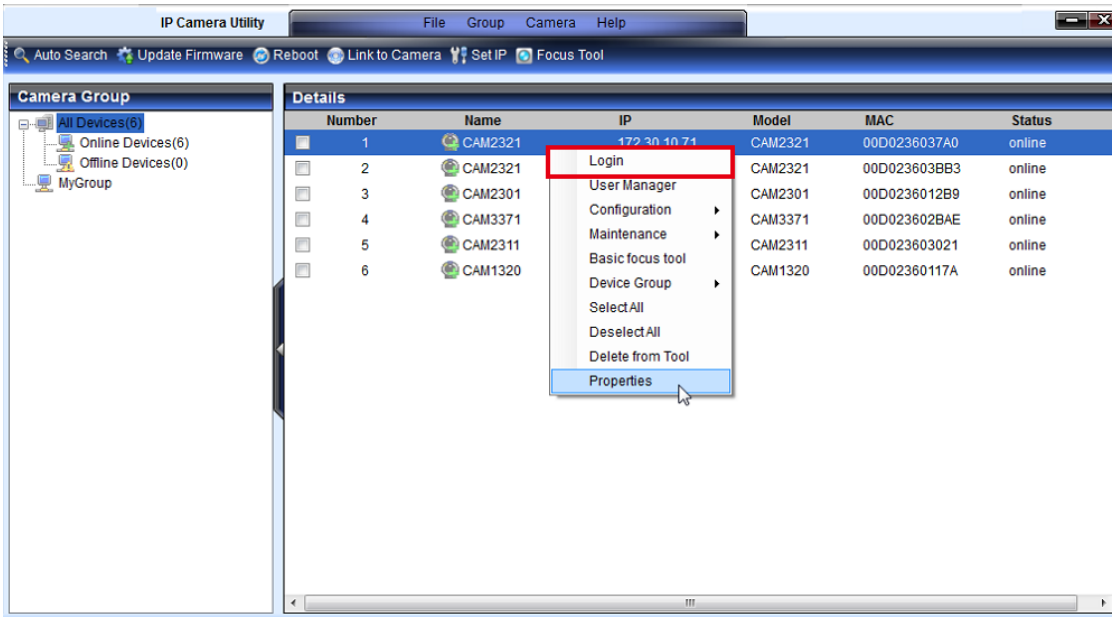
3. Click **OK** to set the username and password.

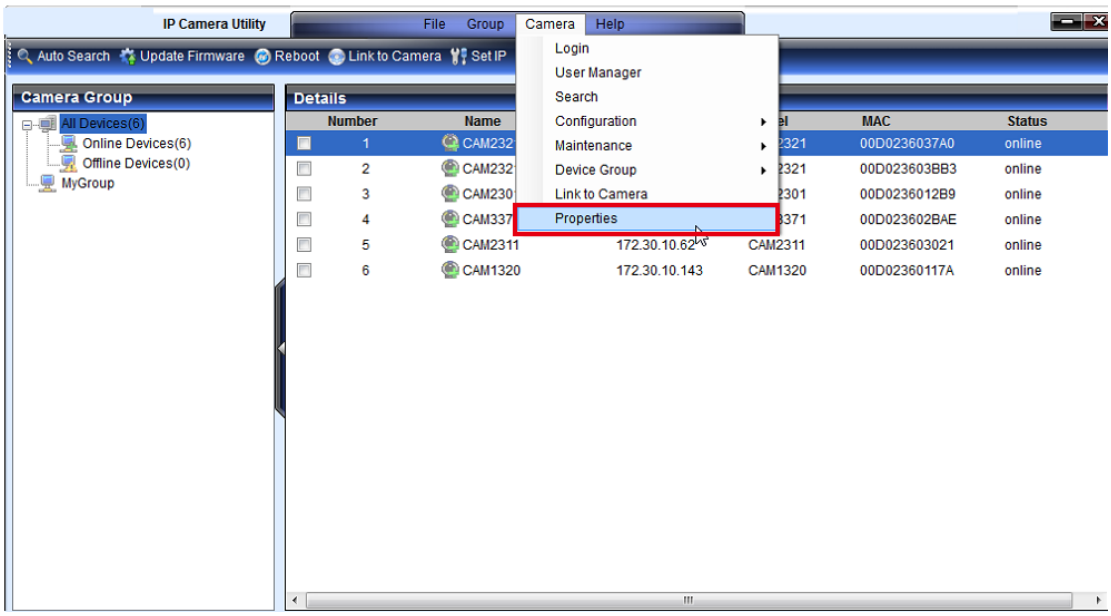
Note: To perform further configuration, please make sure that the User set here has administrator privileges. The default Username/Password for cameras is admin/admin.

Properties

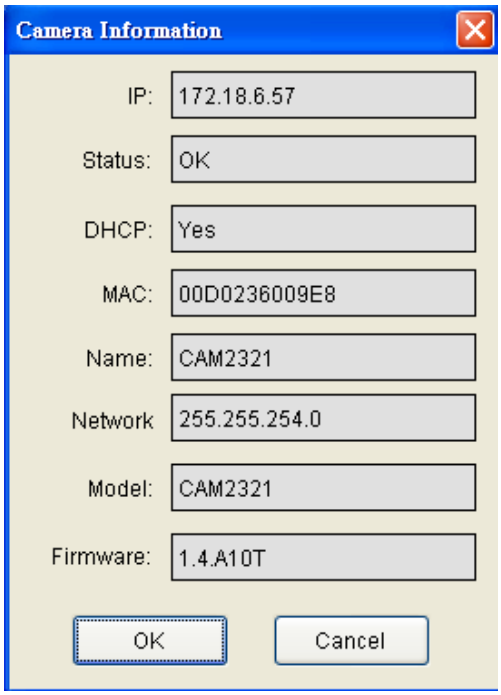
The properties of a camera can be viewed by following these steps:

1. Select a camera by checking the box in the first column of its listing.
2. Right click the camera and select **Properties**, or select **Camera > Properties** from the menu bar.



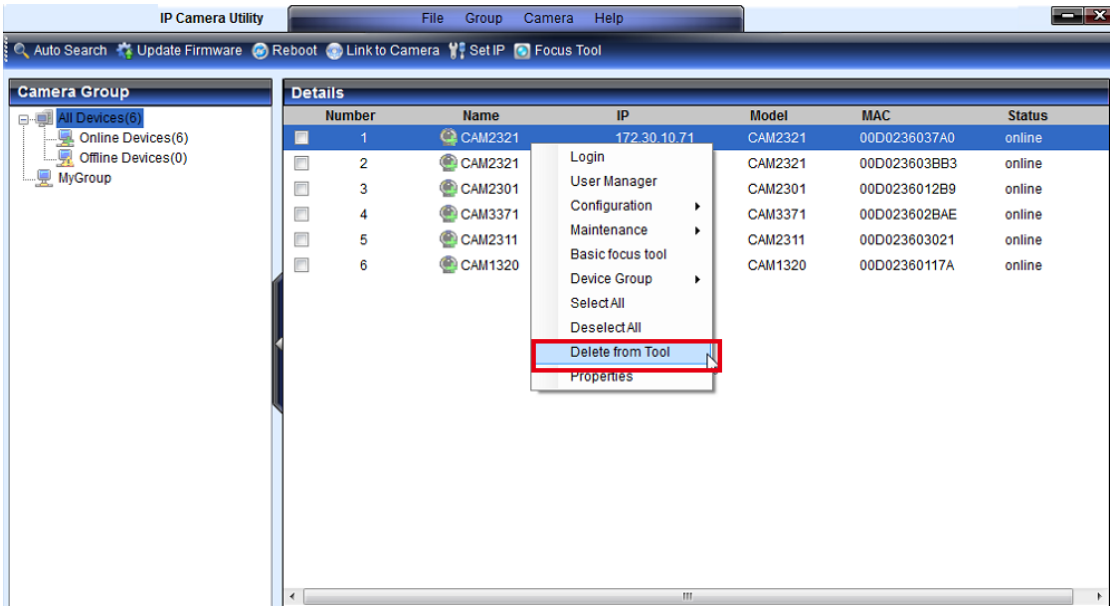


The *Camera Information* popup will display with camera details.



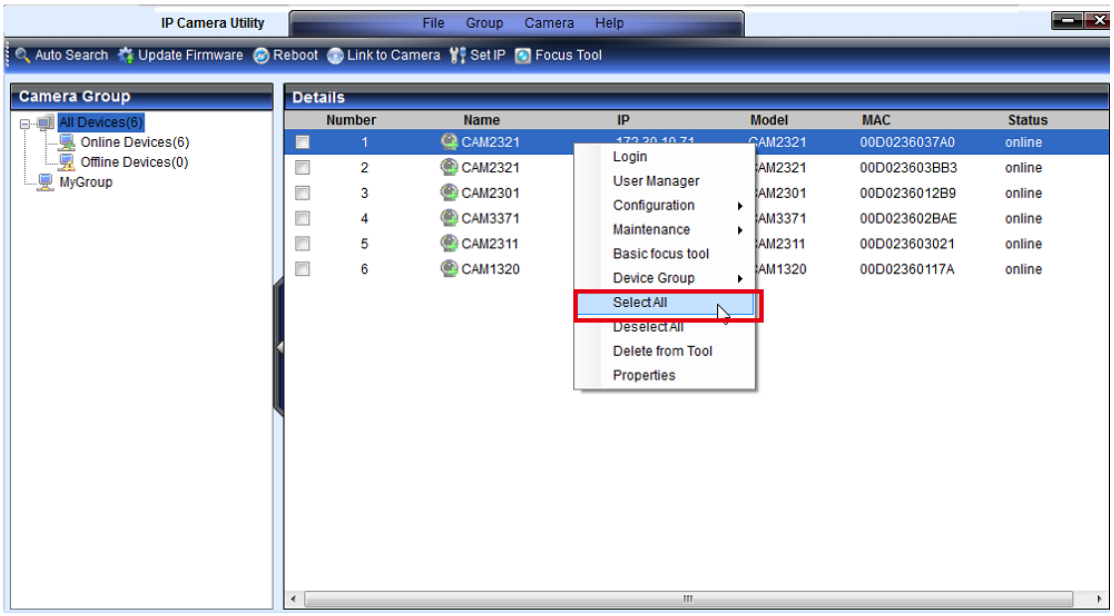
Delete from Tool

1. Select one or more cameras by checking the box in the first column of their listing.
2. Right click the camera(s) which you want to delete from the tool and select **Delete from Tool.** The camera will be removed from the listings.



Select All

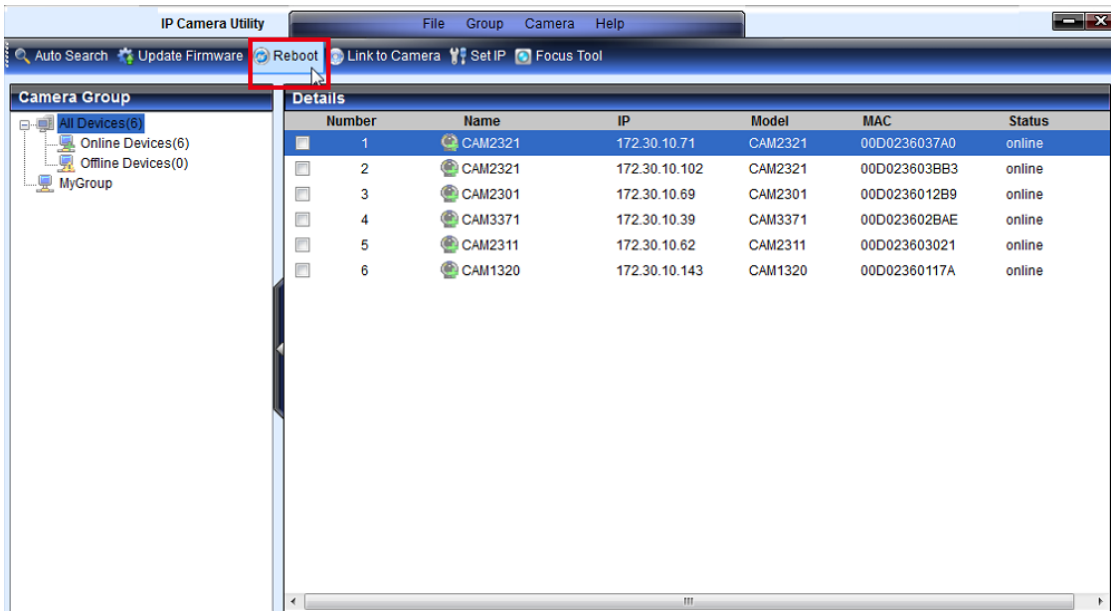
In a group context, right clicking a camera, and selecting **Select All** will select all the cameras in the group.

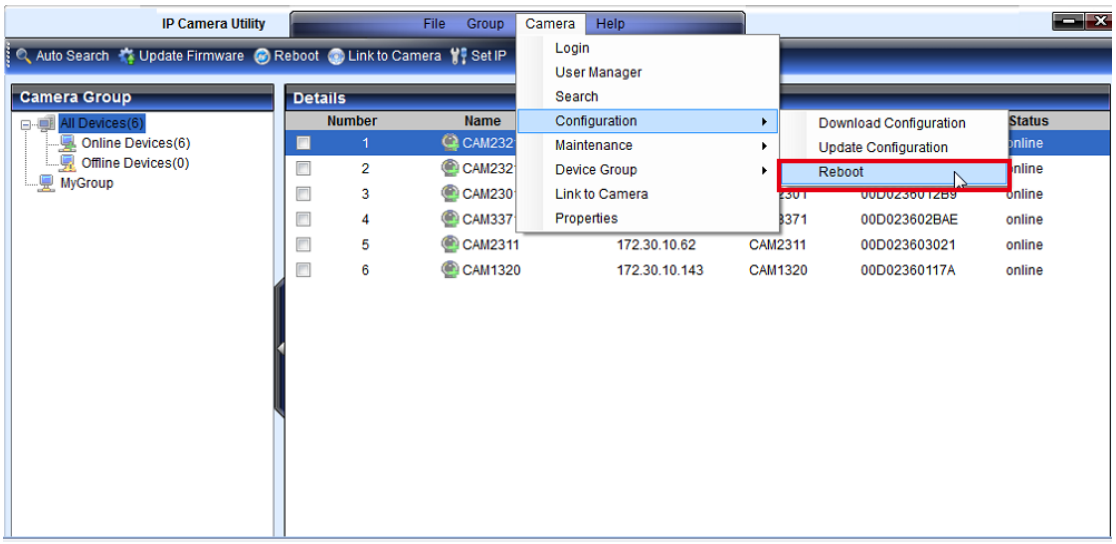


Rebooting Camera

In certain cases it may be necessary to reboot the camera. To do this:

1. Select a camera by checking the box in the first column of its listing.
2. Click the **Reboot** button or select **Camera > Configuration > Reboot** from the menu bar.


IP Camera Utility
File Group Camera Help
Auto Search Update Firmware Reboot Link to Camera Set IP Focus Tool
Camera Group
All Devices(6)
Online Devices(6)
Offline Devices(0)
MyGroup
Details
Number Name IP Model MAC Status
1 CAM2321 172.30.10.71 CAM2321 00D0236037A0 online
2 CAM2321 172.30.10.102 CAM2321 00D023603BB3 online
3 CAM2301 172.30.10.69 CAM2301 00D0236012B9 online
4 CAM3371 172.30.10.39 CAM3371 00D023602BAE online
5 CAM2311 172.30.10.62 CAM2311 00D023603021 online
6 CAM1320 172.30.10.143 CAM1320 00D02360117A online

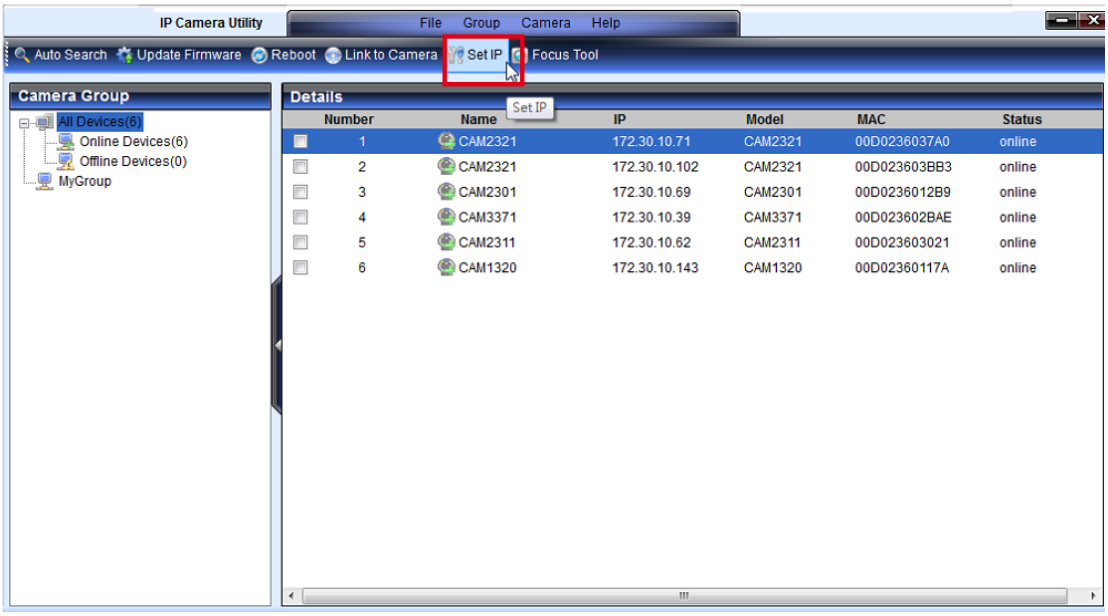


The camera will reboot. If further configuration is needed, perform the **Login** function again after the reboot is completed.

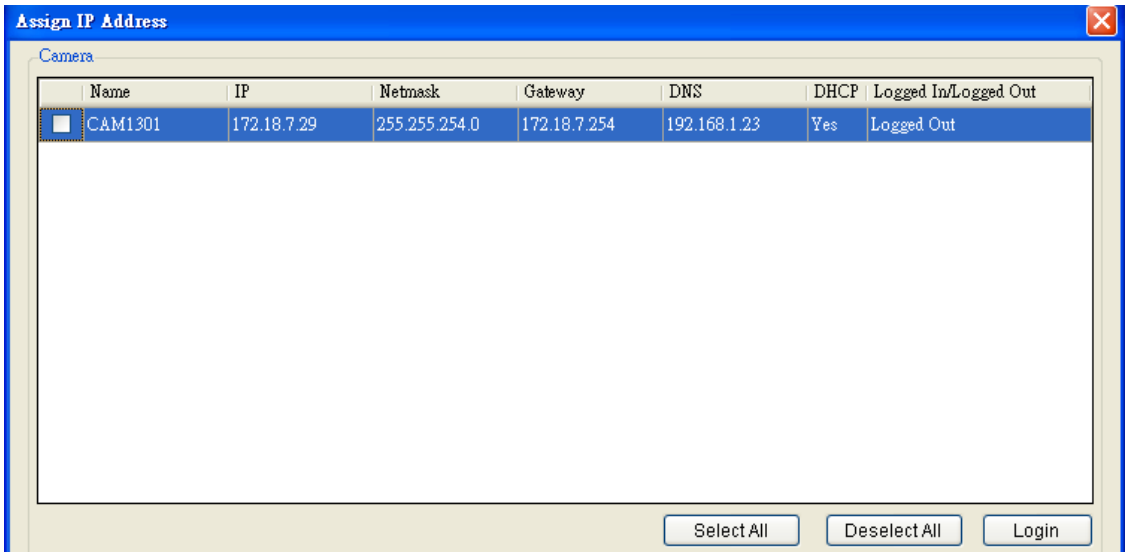
Set IP

The IP Address of a camera can be set by following these steps:

1. Click the **Set IP** button.

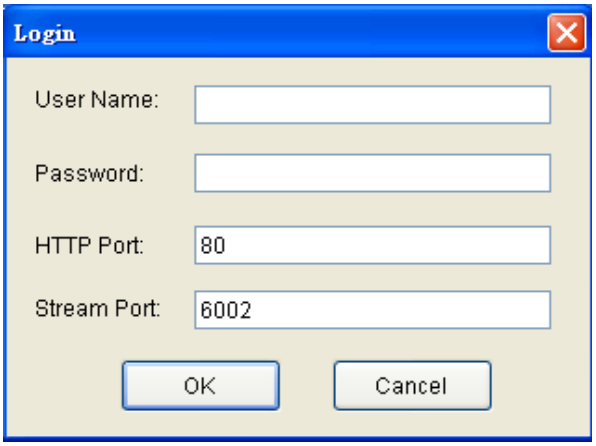

IP Camera Utility
File Group Camera Help
Auto Search Update Firmware Reboot Link to Camera Set IP Focus Tool
Camera Group
All Devices(6)
Online Devices(6)
Offline Devices(0)
MyGroup
Details
Set IP
Number Name IP Model MAC Status
1 CAM2321 172.30.10.71 CAM2321 00D0236037A0 online
2 CAM2321 172.30.10.102 CAM2321 00D023603BB3 online
3 CAM2301 172.30.10.69 CAM2301 00D0236012B9 online
4 CAM3371 172.30.10.39 CAM3371 00D023602BAE online
5 CAM2311 172.30.10.62 CAM2311 00D023603021 online
6 CAM1320 172.30.10.143 CAM1320 00D02360117A online

2. You can choose to obtain an IP address from DHCP or assign a fixed IP.



3. Select one or more cameras by checking the box in the first column of their listing. Click **Select All.**

4. A *Login* window will pop up. Fill in the user name and password. Click **OK**.

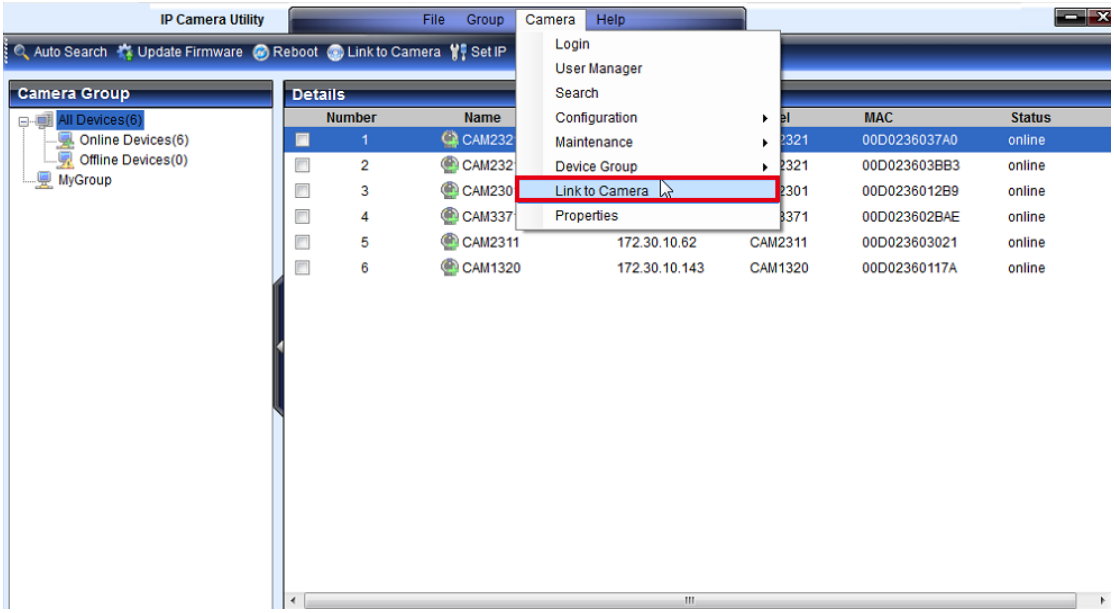


Click **OK** to save or **Cancel** to abort the changes before you leave the page.

Link to Camera Web Interface

Link to Camera

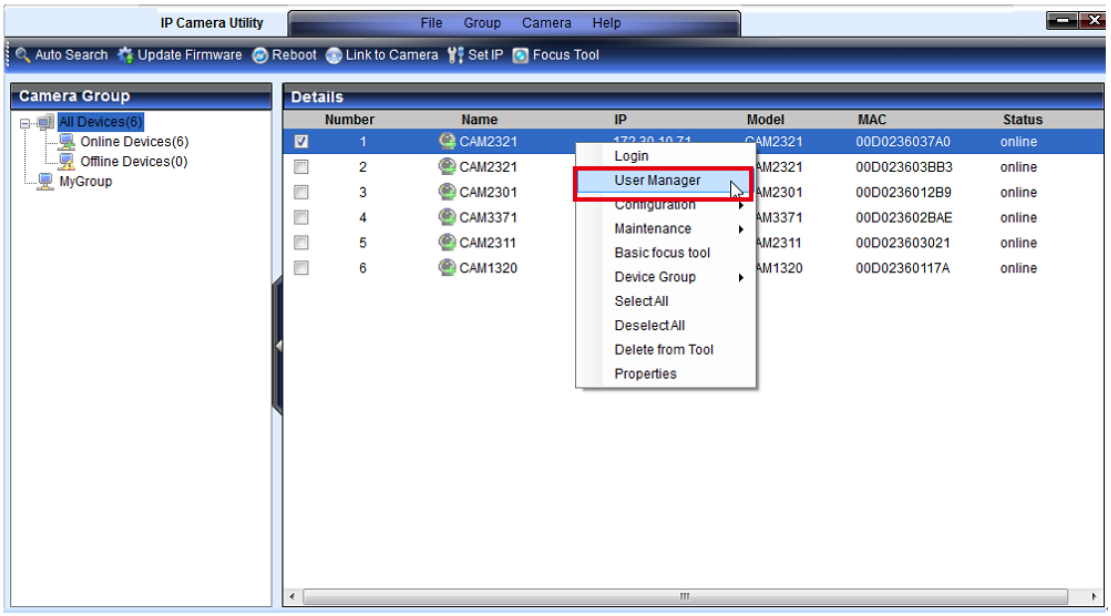
1. Select a camera by checking the box in the first column of its listing.
2. Double click the selected camera or select **Camera > Link to Camera** in the menu bar. The camera's live view webpage will open in a browser window.

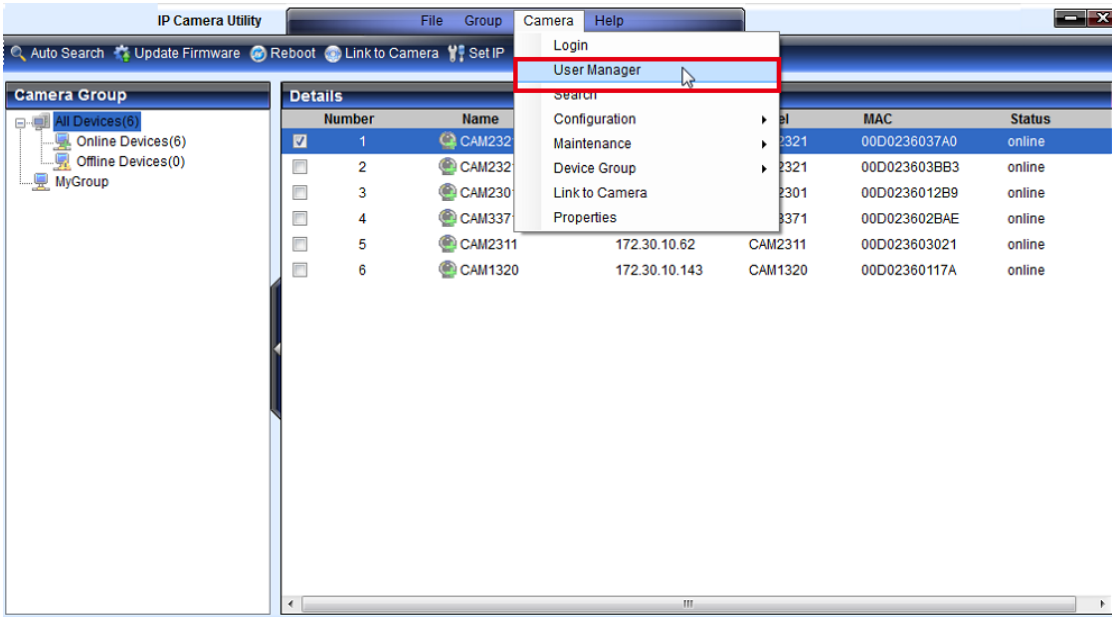


Link to Camera User Manager

This function links to the user management page of the selected camera.

1. Select a camera by checking the box in the first column of its listing.
2. Right click the camera and select **User Manager** or click **Camera > User Manager** in the menu bar. The camera's user management webpage will open in a browser window.





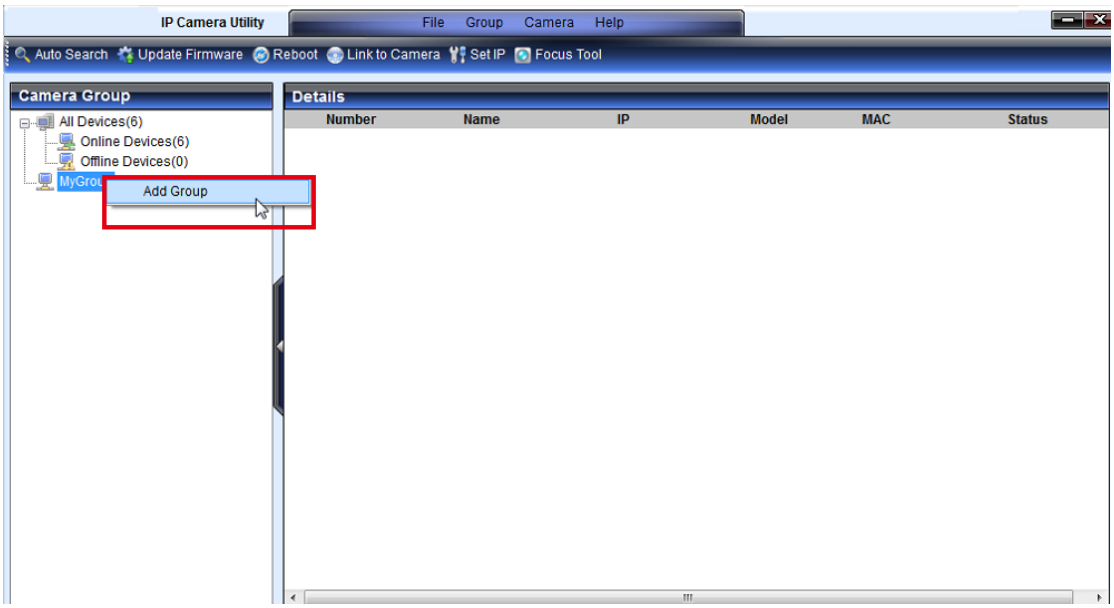
5.5. Camera Group Actions

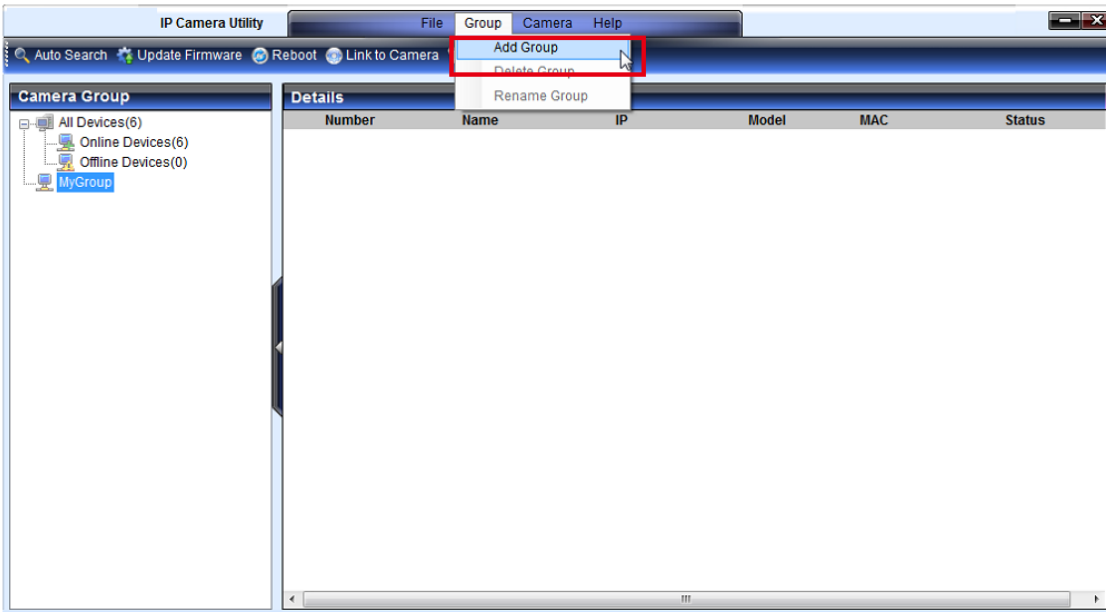
The *Camera Group* frame contains a simple tree containing group listings. There are two pre-defined subsections.

- **All Devices** - contains all the cameras in the tool, as well as predefined groups *New Devices* and *Warnings/Errors*
- **MyGroup** – contains only user defined groups.

Add Group

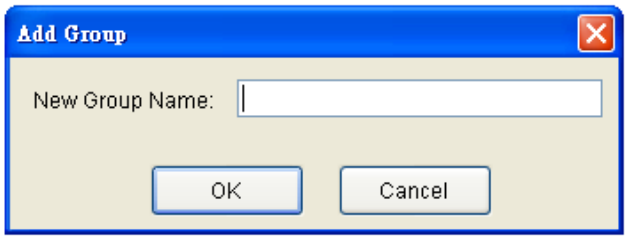
1. Right click the *MyGroup* root, and choose **Add Group** or choose **Add Group** from the **Group** menu.





The system responds with the *Add Group* popup.

2. In the *New Group Name* field, type in a group name.

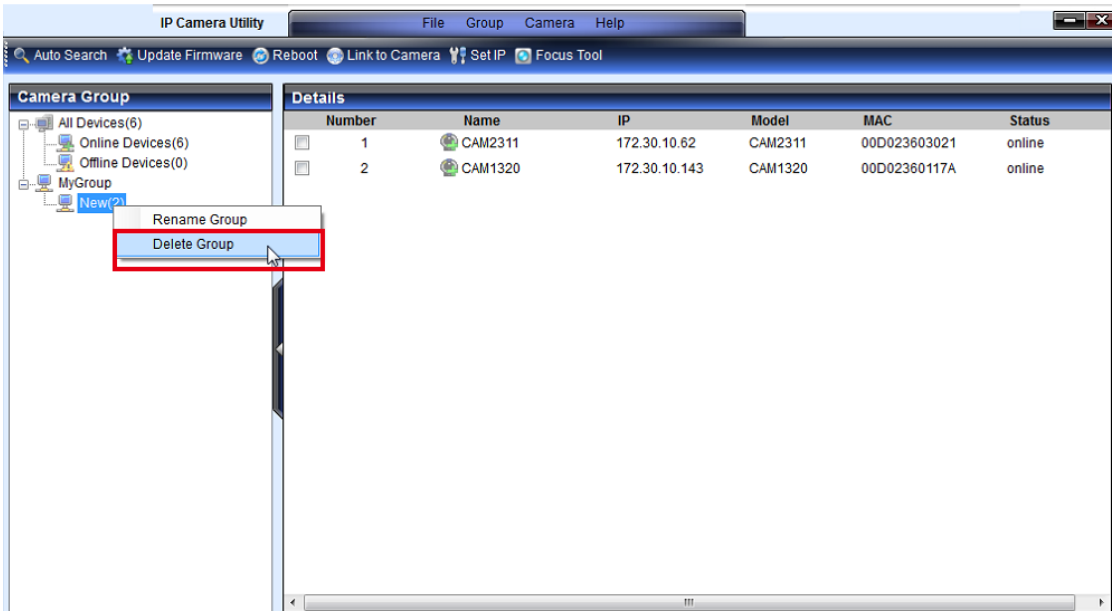


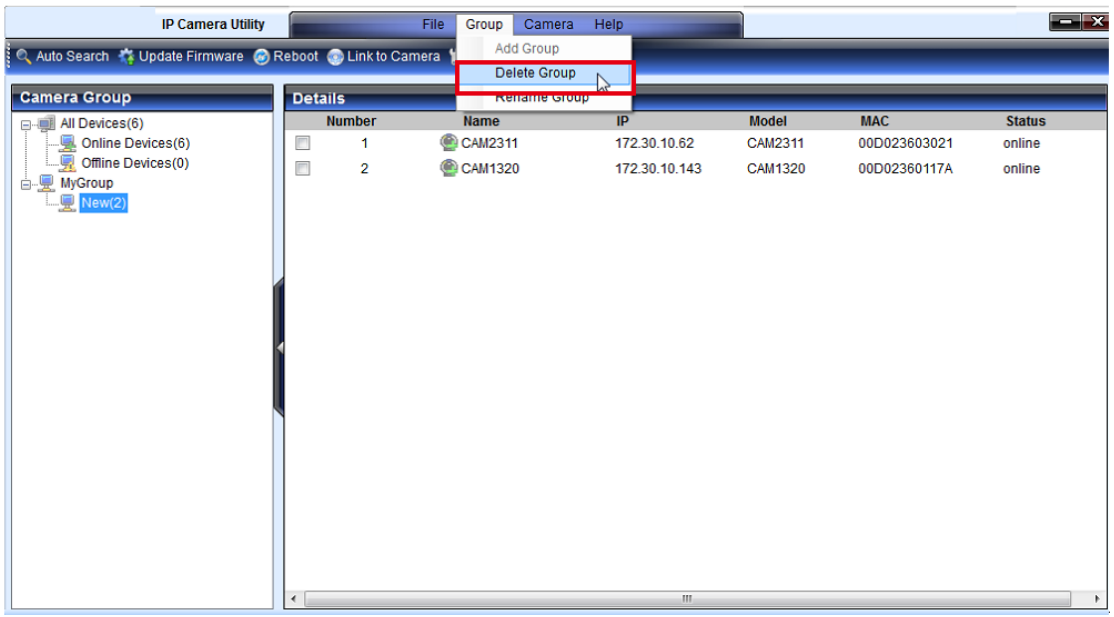
3. Click **OK** to add the group. The group will appear under *MyGroup*

Note: Camera group names can contain upper and lower-case letters, numerals and the _ symbol. Cameras can belong to more than one group.

Delete Group

1. Expand *MyGroup* and right-click the group you wish to delete.
2. Choose **Delete Group** to delete the group. Alternatively, click the group and choose **Delete Group** from the **Group** menu.



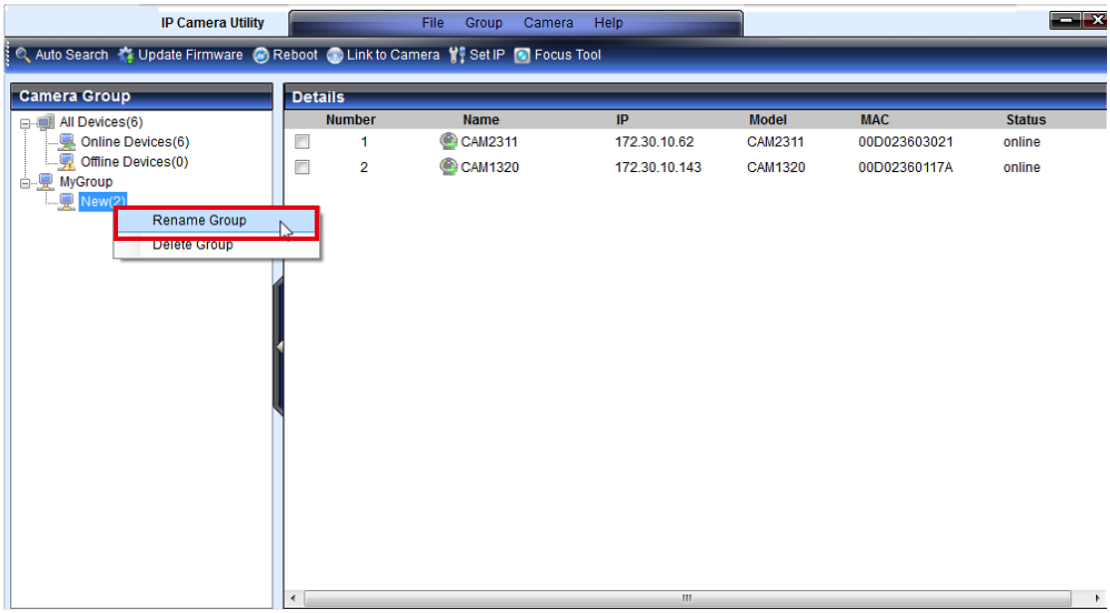


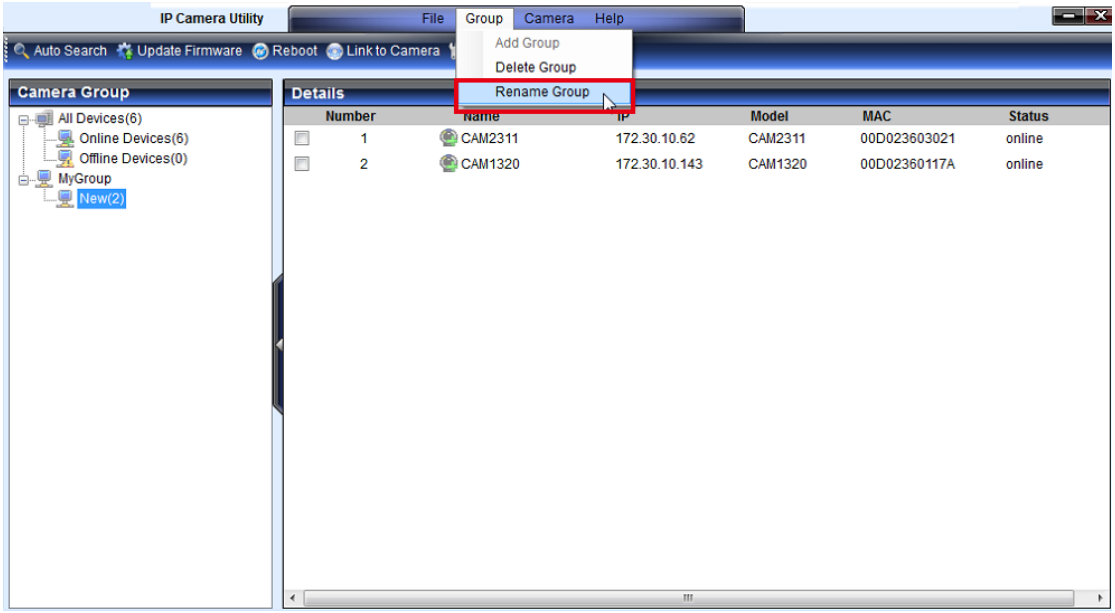
3. The system will ask to confirm the deletion. Click **Yes** to delete the group.

Note: Groups may be deleted, even if they contain cameras.

Rename Group

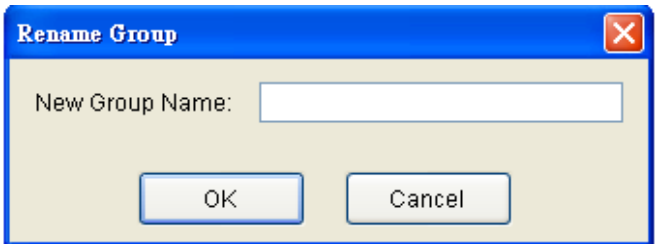
1. Expand *MyGroup* and right-click the group you wish to rename.
2. Choose **Rename Group**. Alternatively, click the group and choose **Rename Group** from the **Group** menu.





The *Rename Group* popup appears.

3. Enter a new group name in the *New Group Name* field.



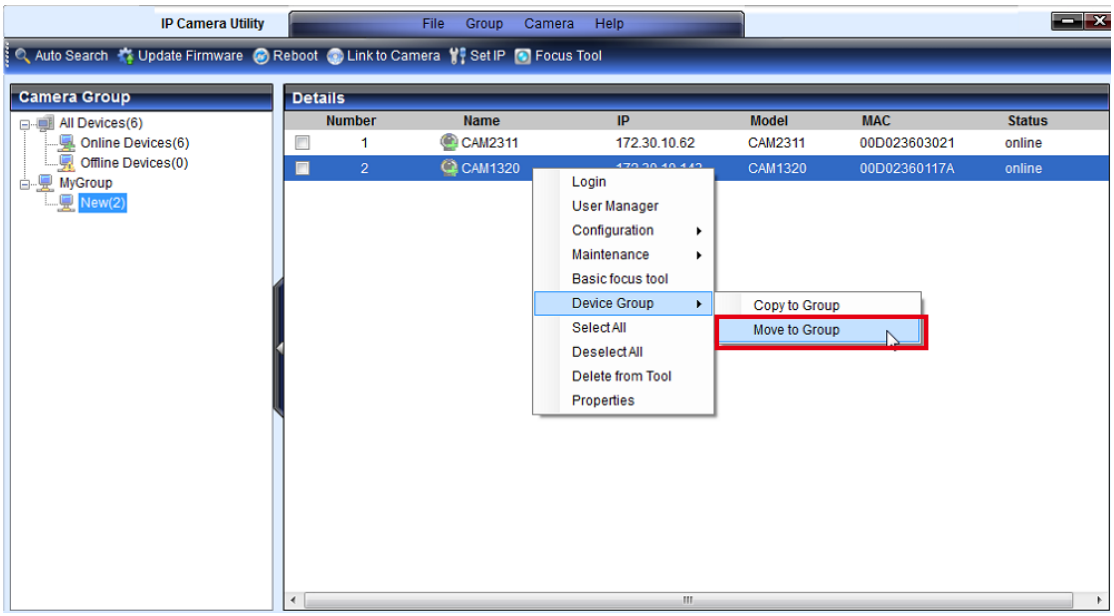
4. Click **OK** to save your changes.

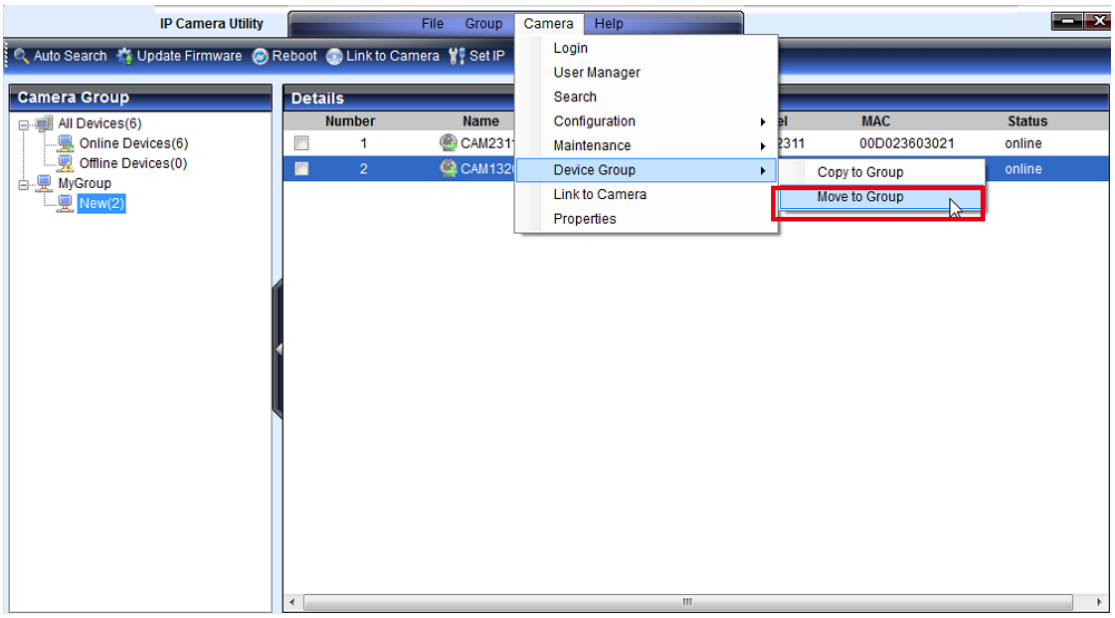
Note: Camera group names can contain upper and lower-case letters, numerals and the _ symbol.

Move to Group

This function moves the selected camera(s) from a group to another group.

1. From the *Camera Group* window select a group under *MyGroup*.
2. Select one or more cameras from the existing group by checking the box in the first column of their listing.
3. Right click the camera and select **Device Group > Move to Group**, or select **Camera > Device Group > Move to Group** from the menu bar.





4. In the *Select Group* pop-up box select the destination group.

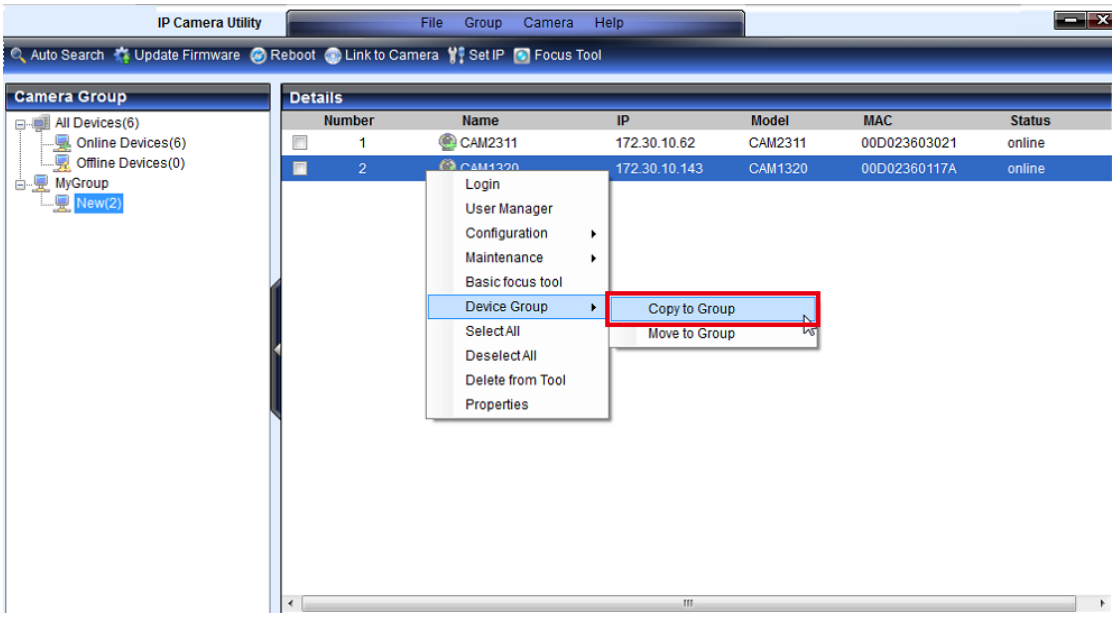
5. Click **OK** to move the selected camera(s) to the group.

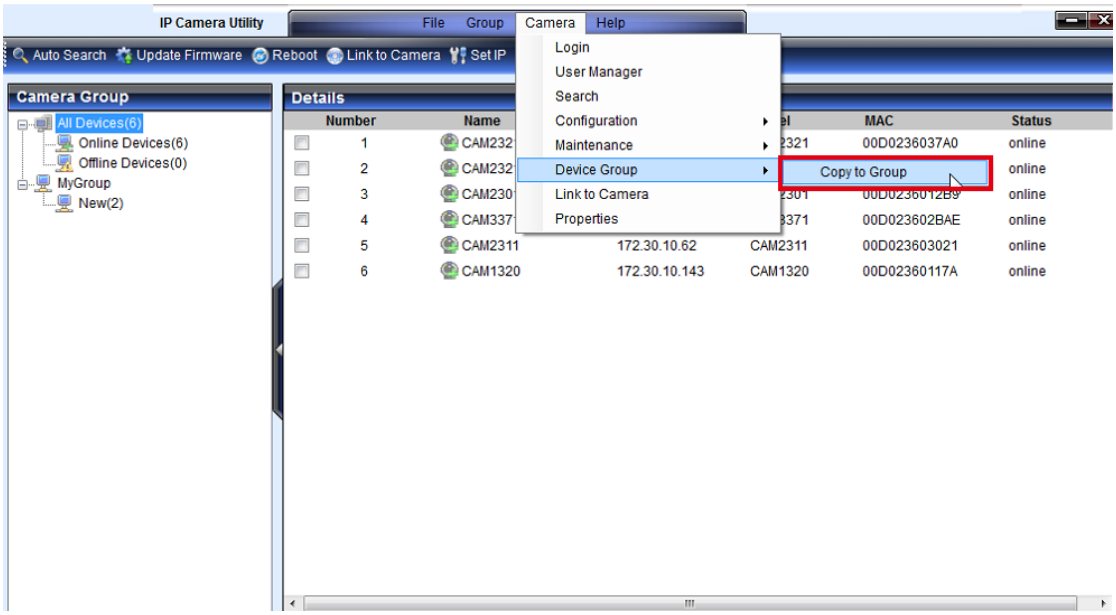
Note: Cameras can not be moved from groups under *All Devices*.

Copy to Group

This function copies the selected camera(s) from a group to another group.

1. From the *Device Group* window select a group.
2. Select one or more cameras from the existing group by checking the box in the first column of their listing.
3. Right-click the camera(s) and select **Device Group > Copy to Group**, or select **Camera > Device Group > Copy to Group** from the menu bar.



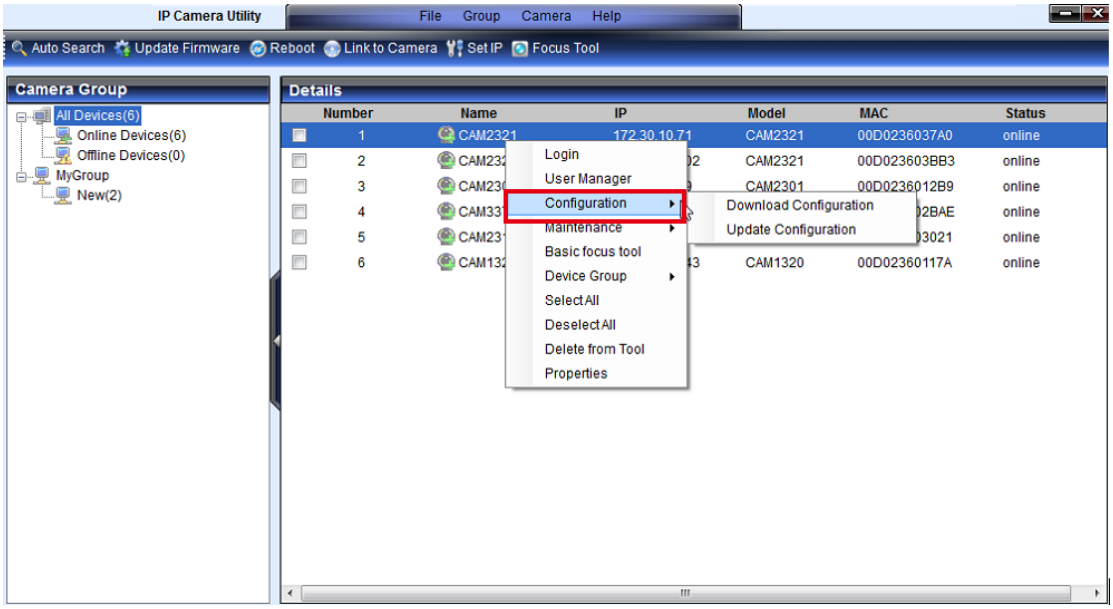


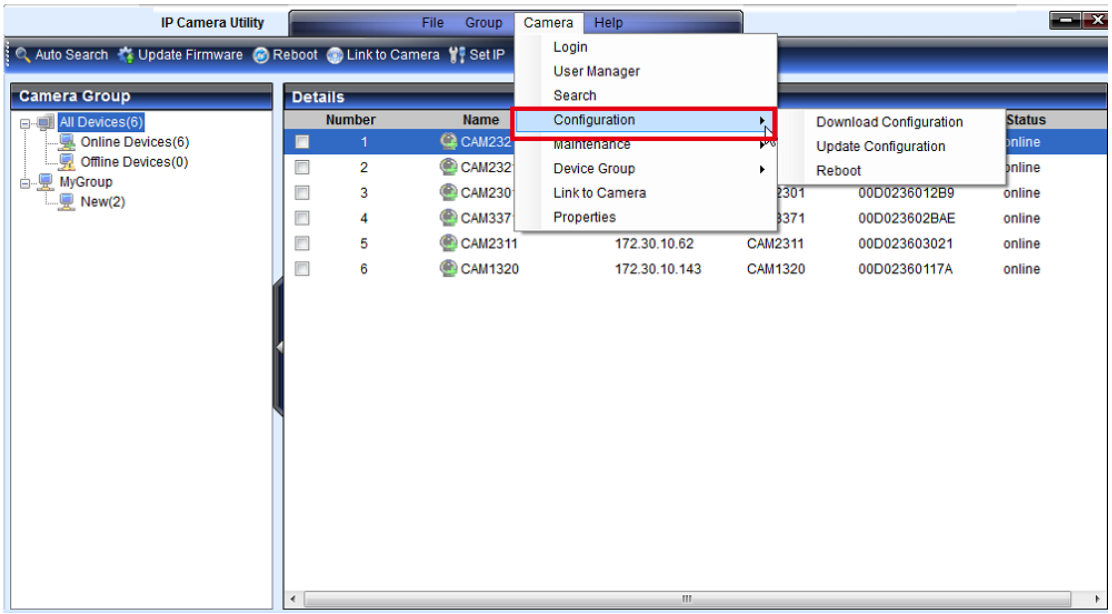
4. In the *Select Group* pop-up box select the destination group.

5. Click **OK** to copy the selected camera(s) to the group.

5.6. Configuration Settings

Configuration can be downloaded and updated by selecting **Camera > Configuration**, or the process can be automated by downloading the configuration from one camera using the **Download Configuration** function, and then using the **Update Configuration** function to upload the changed configuration file.

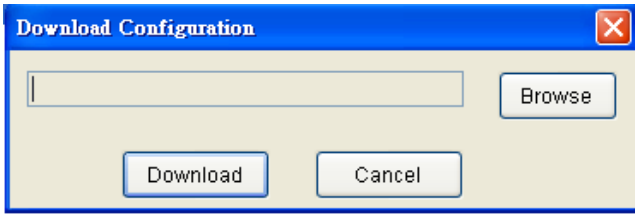




Download Configuration

This function downloads a configuration file.

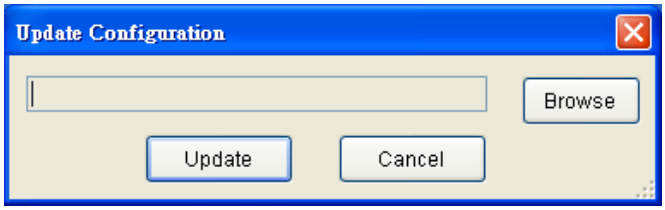
1. Select a camera by checking the box in the first column of its listing.
2. Right-click the camera which you want to download from and select **Configuration > Download Configuration**, or select **Camera > Configuration > Download Configuration** from the menu bar. The *Download Configuration* popup will display.



3. Click the **Browse** button to browse the computer and locate a destination.
4. Click **Download** to download the configuration file to the destination.

Update Configuration

1. Select one or more cameras by checking the box in the first column of their listing.
2. Right-click the camera(s) which you want to update to and select **Configuration > Update Configuration**, or select **Camera > Configuration > Update Configuration** from the menu bar. The *Update Configuration* popup will display.

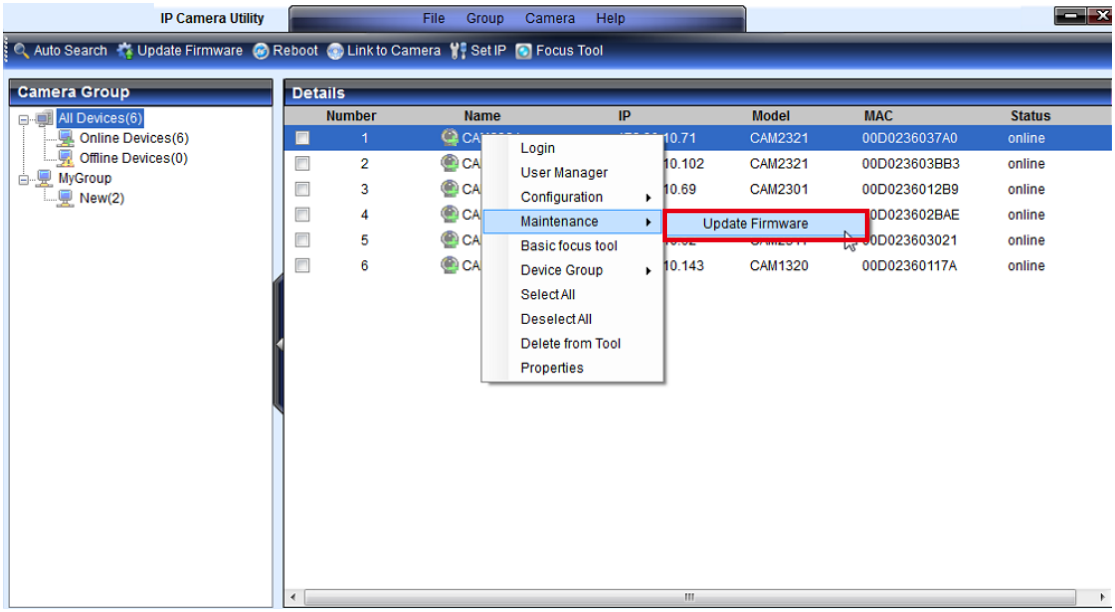


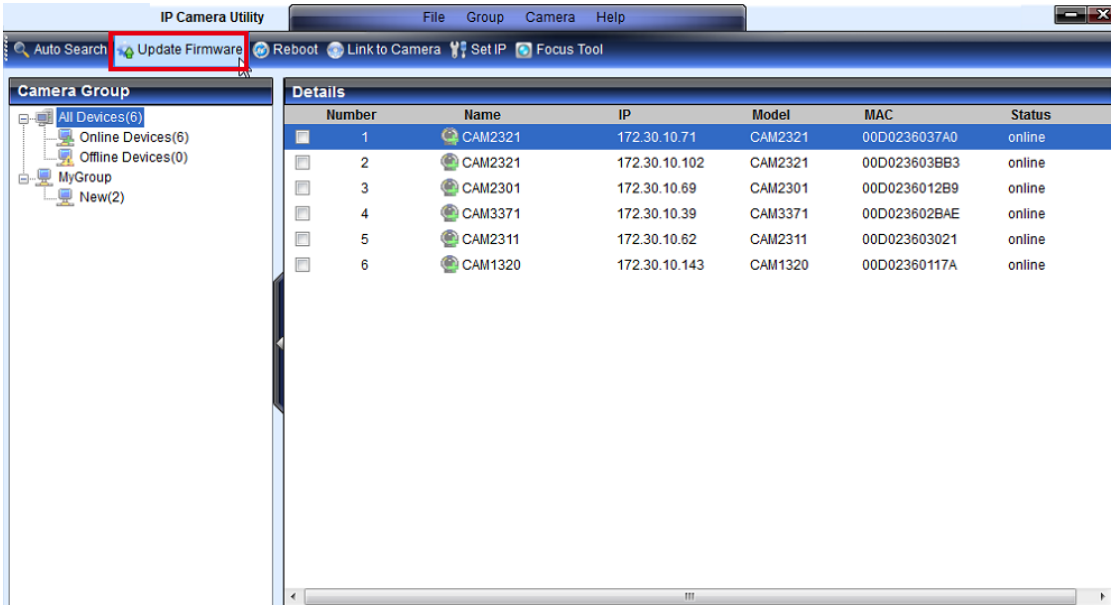
3. Click the **Browse** button to browse the computer and locate a configuration file.
4. Click **Update** to upload the configuration file to the camera(s).

5.7. Firmware Actions

Update Firmware

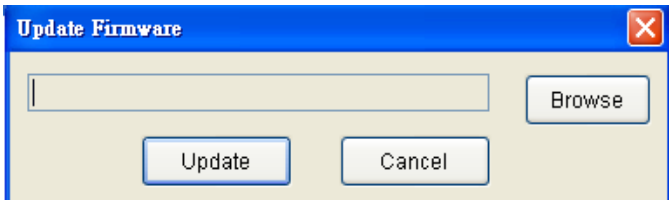
Once a new version of the camera firmware is obtained, the firmware can be updated using the following steps:




IP Camera Utility
File Group Camera Help
Auto Search Update Firmware Reboot Link to Camera Set IP Focus Tool
Camera Group
All Devices(6)
Online Devices(6)
Offline Devices(0)
MyGroup
New(2)
Details
Number Name IP Model MAC Status
1 CAM2321 172.30.10.71 CAM2321 00D0236037A0 online
2 CAM2321 172.30.10.102 CAM2321 00D023603BB3 online
3 CAM2301 172.30.10.69 CAM2301 00D0236012B9 online
4 CAM3371 172.30.10.39 CAM3371 00D023602BAE online
5 CAM2311 172.30.10.62 CAM2311 00D023603021 online
6 CAM1320 172.30.10.143 CAM1320 00D02360117A online

Note: You must be logged into the camera to update the camera firmware.

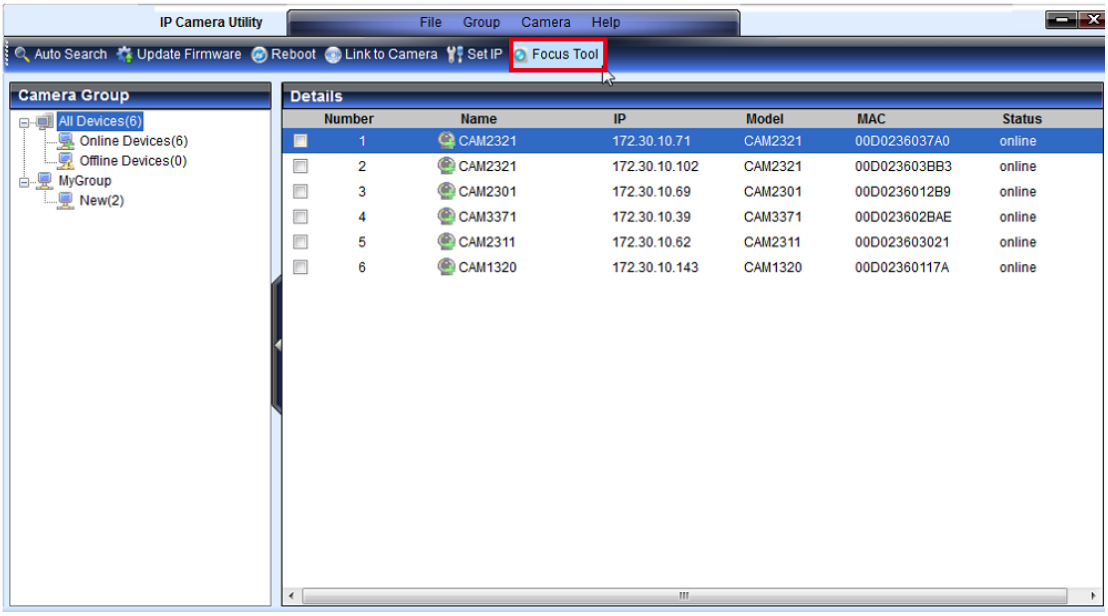
1. Select one or more cameras by checking the box in the first column of their listing.
2. Click the **Update Firmware** button; right-click the camera(s) which you want to update to and select **Maintenance > Update Firmware**; or select **Camera > Maintenance > Update Firmware** from the menu bar. The *Update Firmware* popup will display.



3. Click the **Browse** button to browse the file system and locate a firmware file.
4. Click **Update** to upload the firmware to the camera(s).

5.8. Focus Tool

The Focus Tool is used as a reference for focus precision. Click the **Focus Tool** button to open it.


IP Camera Utility
File Group Camera Help
Auto Search Update Firmware Reboot Link to Camera Set IP Focus Tool
Camera Group
All Devices(6)
Online Devices(6)
Offline Devices(0)
MyGroup
New(2)
Details
Number Name IP Model MAC Status
1 CAM2321 172.30.10.71 CAM2321 00D0236037A0 online
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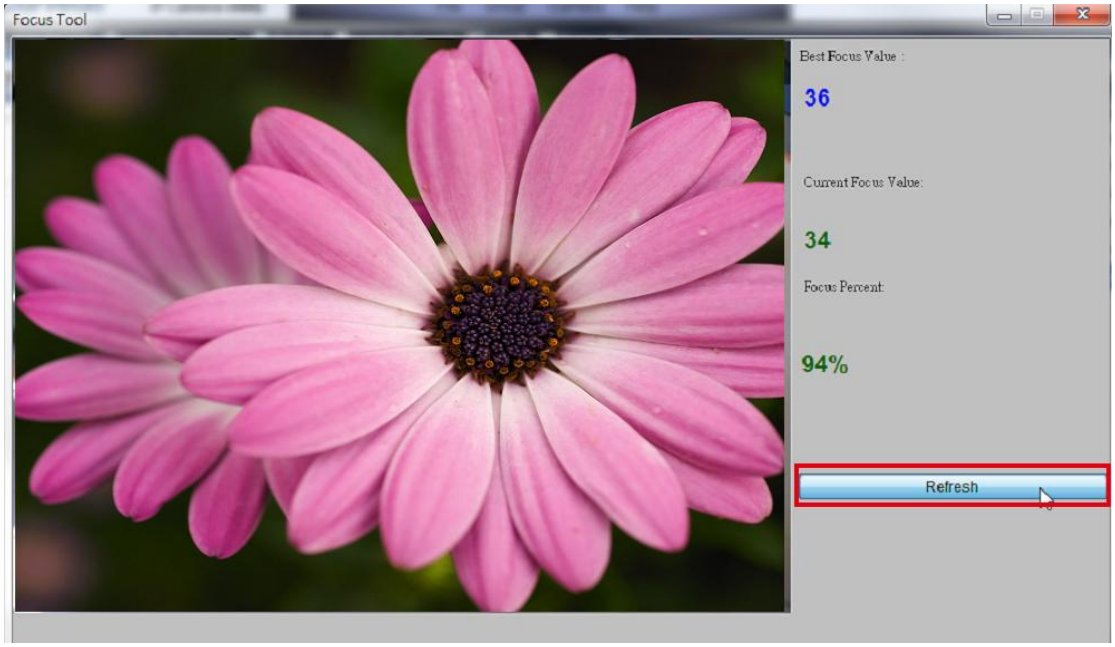
3 CAM2301 172.30.10.69 CAM2301 00D0236012B9 online
4 CAM3371 172.30.10.39 CAM3371 00D023602BAE online
5 CAM2311 172.30.10.62 CAM2311 00D023603021 online
6 CAM1320 172.30.10.143 CAM1320 00D02360117A online

Information of *Best Focus Value*, *Current Focus Value* and *Focus Percent* will be shown at the bottom of the Focus Tool Window. You can click **Refresh** to get a new data after focus adjustment is done.



Note: When the Focus Percent is higher, the focus is more precise.